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Including Syphilis

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THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXXV OCTOBER, 1917 No. 8

Original Communications

ERYTHEMA FIGURATUM PERSTANS*

W. H. MOOK, M.D.
ST. LOUIS

Probably the most important mile stone in the erythema multiforme group of skin diseases was laid in 1876 when Hebra, under the terms "polymorphous erythemata," grouped together several skin diseases, all of which were characterized by erythematous eruptions with exudations into the skin. This group included (*a*) erythema exudativum multiforme, (*b*) erythema nodosum, (*c*) roseola exudative, (*d*) urticaria. Although he grouped them under the one name, "Polymorphous Erythemata," he classified them as etiologically distinct diseases though having a similar pathological basis, namely erythema with exudations.

Dr. Adamson,[1] quoting Hebra's classical description, calls attention to its peculiar appearance. "In every instance it is present on the dorsal surfaces of the hands and feet. In the more severe cases, but only in these, it may be observed on the forearms or legs, on the arms and thighs and even on the arms and face." These later changes he considers as only exceptional and when found there, it invariably exists on the backs of the patient's hands. "The efflorescence consists of flattened papules, or tubercles, of a dark blue or brown color, between lentils to beans in size." He then describes how they may fade, leaving slight pigmentation; while in other cases they spread into rings (erythema annulare) or into concentric rings (erythema iris) or form gyrate and marginate figures by expansion and blending of the rings. He insists that all these forms are really phases of the same affection, including the vesicular and bullous forms. The subjective symptoms he considers as trifling. The duration varies between one

*Received for publication June 4, 1917.
*Read before the Forty-First Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

1. Adamson: Brit. Jour. Dermat., 1912, p. 429.

and four weeks with a tendency to relapse at certain seasons. Undoubtedly, he was unfamiliar with the disease as a manifestation of grave visceral changes, and Lewin in 1878 called attention to its significance.

A second and very important mile stone was established when Osler called attention to "The Visceral Manifestation of the Erythema Group of Skin Diseases,"[2] in which he states, "According to the recent writers, under the erythemas are included simple erythemas, erythma exudativum, herpes iris, erythema nodosum, certain of the purpuras, urticaria and angioneurotic edema. The essential process is a vascular change with exudate, blood, serum, alone or combined. While five or six of the affections just named are described usually as separate diseases, they belong to one family and are characterized by the similarity of the conditions under which they occur, the frequency with which the lesions are substituted the one for the other in the same patient at different times, the tendency to recurrence, often through a long period of years and lastly, the identity of the visceral manifestation." He discusses the features presented by the entire group of twenty-nine cases, in which the seriousness of the condition is attested by the occurrence of seven deaths, or 24 per cent. The textbooks on dermatology seem woefully lacking in their treatment of this important work. He answers the criticism of his first two cases that he had jumbled together a motley group of cases, some of purpura, some angioneurotic edema, others of peliosis rheumatica; others again of exudative erythema, by saying he did so on purpose, seeking similarities, not diversities. In his second case, which he studied for six years, he noted purpura, erythema, angioneurotic edema and urticaria. In Cases 19 and 20, the most expert dermatologists were in doubt as to the nature of the lesions, and could only say it was a peculiar type of erythema. In 1905, Wende[3] read a paper before the American Dermatological Association on "Erythema Perstans Involving Circinate Lesions," with report of two cases. He included all varieties of persistent erythemas, some described previously as separate diseases, each having its own pronounced characteristic. In the second paper,[4] he reports a third case, and eliminates all save one variety. This variety presents erythematous patches which assume annular, marginate and gyrate forms, differing essentially from other varieties of erythema. I wish to present two cases of the variety similar in most respects to his cases.

2. Osler: Am. Jour. Med. Sc., January, 1904.
3. Wende: Jour. Cutan. Dis., 1906, p. 241.
4. Wende, G. W.: Erythema Figuratum Perstans, Jour. Am. Med. Assn., Dec. 5, 1908, p. 1936.

REPORT OF CASES

Case 1.—Mr. A. F., a man, aged 46 years, first consulted me in December, 1909, for an eruption on his thighs and hips. His only serious illness happened at the age of 20, when he suffered a severe attack of diphtheria and received a large dose of antitoxin. He stated that at that time he suffered with "diphtheria paralysis" and was laid up for several months. At the present time, he states that he has been suffering from the skin disease for twelve years, and that the eruption first appeared on his forearms. In the twelve years, he has been free of eruption for a month or two, several times. The lesions are most abundant in the spring, and are apparently aggravated by hot weather. He is of the opinion that when his stomach is out of order they are more abundant. His description is that the lesions began as a small red spot and enlarged from the edges, sometimes running together to form patches, and scaling began in the center, after the spreading process had begun. In former years they would enlarge to about 4 inches in diameter, but in the last few years they average about 2 inches before they begin to fade. It requires three to four weeks usually before the brownish discoloration appears, though sometimes this is much longer. His opinion is that from three and one half to four weeks is the average duration of the individual lesions. They have no burning or itching sensation, and they are never painful. They are the same at night as in the day time. They always begin as small lesions. Sometimes they appear as single isolated patches and sometimes two or more appear at the same time. The areas involved are the inner and anterior parts of the forearms and wrists, the thighs and hips; never on the trunk, face, neck or below the knees. He has never had the eruption on the arms or forearms in the last two years; the present sites are the inner surfaces of the thighs and buttocks. The usual lesions to be seen are circinate and gyrate, from the size of a penny up to 2 inches in diameter, with a rather red border and fainter, fawn colored center. When I first examined him the lesions gave the appearance of the neurosyphilid of Unna, but were not so infiltrated as papular syphilis and the collar of soft infiltration around the periphery was continuous and not divided into separate papules. The new lesions are erythematous rings with a smooth surface, sharply defined, with no scaling or crusting. The scaling appears after they have been present from ten days to two weeks. His Wassermann reaction has always been negative. The differential and leukocyte count has been normal as well as the urinalysis, and his physical examination too has been negative. He has been under our observation at various times in the last eight years and we have never seen him free of eruption. Sometimes there are only two or three, but at other times there are fifteen or twenty. Systemic or local treatment has been of no avail. The skin reaction to the various foodstuffs gave a marked reaction to beef, and not quite so marked to mutton, but the milk, egg, pork, and wheat flour were the same as the control.

Case 2.—Mr. J. M. C., aged 35 years, was referred by Dr. L. P. Butler. He stated that the disease had begun ten years before. He was a young man of good frame and physique. He thought that his father at one time had had some sort of eczema. He had always been healthy, except that when he was 6 years of age, he suffered from a severe attack of diphtheria, from which he thought he was partly parlyzed, as he remembered that it was several months before he was able to walk; and that he remembered his mother having told him that he was unconscious for many days. He did not receive antitoxin. In about 1905 he noticed under the right scapula a ring about the size of a quarter which would remain for a while, disappear and then recur. This process continued for several years in this area. He remembers that it responded fairly well to tincture of iodin which was liberally and frequently applied. The eruption has been more or less continuous since it began. The lesions are more marked in hot weather than in cold, and one time when he had an attack of malaria they were particularly marked. His digestion has been

particularly good in the last ten years, but before the eruption appeared he used to suffer with attacks of indigestion.

The lesions have practically not changed their character since the one he first noticed on his back. They began as small red plaques, spreading peripherally into a ring and as those rings enlarge and meet, they form gyrate patches. There is no scaling or crusting at first, but they do burn and itch, and they are especially pruritic at night. After a few days, the subjective symptoms cease and they become slightly scaly. The average size is about 1 inch, but they frequently attain the size of 2 inches in diameter. It requires from two to three weeks from the first appearance of the spot until the redness of the ring disappears, and then fades in the brownish discoloration. They are very annoying in summer when it is hot and perspiration occurs. He thinks they always begin as small spots but they are sometimes large when he first notices them.

They do not appear in crops or exacerbations, but one or two at a time, so that their appearance is more or less continuous. They have appeared all over his body except the face, neck, shoulders, hands and feet; in other words, from the axillæ to the ankles, and have been most abundant, during the two years we have been observing him, from the waist-line to the knees, and especially over the gluteal region. As in the preceding case, the characteristic of the lesion is an erythematous ring, very slightly infiltrated, many of them being almost perfect circles and at various times the lesions have consisted of concentric rings. This was not noticed in the preceding case. The center is usually very slightly discolored from the normal skin, and the lesions greatly resemble pityriasis rosea, after they have been present for a week. Frequently, when they occur in apparent groups, they run together and segments of the circles disappear at junctions with nearby lesions and thus gyrate patches are formed.

The blood counts have been practically normal, occasionally a very slight eosinophilia, never over 5 per cent. Urinalysis normal. Examinations of his teeth revealed a small pus pocket adjoining one tooth which contained ameba. He was given a long course of emetin injections, and the ameba disappeared but there was no change in the skin condition. His skin reaction to the various foodstuffs gave a marked reaction to beef, and not quite so much to pork, but the milk, egg, mutton and wheat flour were all the same as the control.

Thus it will be seen that we have two cases of this disease which are perfectly alike in their essential features. In one it has existed twelve years and in the other ten. The lesions are practically the same in both. It is to be noted that both of them suffered years before from very severe attacks of diphtheria and both of them suffered for several months following their attacks. In one there have never been any subjective symptoms while in the other itching and burning were present, and at times to a marked degree. The distribution in both, that is, on the buttocks and thighs and hips, was practically identical. In Case 2, occasional perfect concentric rings were noted, but this was not a constant feature.

The etiology is as baffling in one as in the other. The treatment was equally disappointing.

HISTOLOGY

The periphery of a newly formed circinate lesion was excised, including a portion of normal skin, hardened in alcohol, mounted in paraffin, and many stains used in study. The most striking pathologic picture observed was that of edema, involving the upper corium and the epidermis. The edema was

diffuse, separating the bundles of connective and elastic tissue and the latter fibrils were especially widely separated. Apparently there was no degeneration of the elastic or collagen fibrils. In the epidermis the intercellular and intracellular edema was marked and sometimes elongated and flattened the cells, producing thickening but not acanthosis. The horny layer was practically normal in this early lesion and parakeratosis was not observed. The stratum granulosum was not present over the lesion, edema probably eliminating this process of cornification. The squamous cells, while showing marked intercellular and intracellular edema, with a very occasional vacuolated cell, were not sufficiently swollen or torn apart to show vesiculation. The columnar layer in places showed elongation and flattening, owing to lateral pressure, but no degeneration. The superficial capillaries were dilated and showed cell infiltration of a few young connective tissue cells, a few mast cells and many round cells, bringing them out in relief, in the edematous corium. Differing from Wende's cases, there were no plasma cells. A few sweat glands showed very slight involvement. An occasional leukocyte was observed. The hair follicles and sebaceous glands were normal.

COMMENT

Wende's paper gives the complete clinical description and practically all the important literature on this peculiar form of erythema. He also gives the histology in detail. Close scrutiny of the cases reported shows unusual similarity. The disease begins as scattered and isolated papules, fading in the center, extending peripherally and gradually developing into oval and circinate lesions. In most all of them the edges are elevated, sharply defined, with little and usually not much scaling. They are pink in color, show slight infiltration and leave a fading center, covered with a branny desquamation. In Wende's cases they varied in size from a twenty-five cent piece to the palm of the hand. The lesions may remain from one to three months, gradually fading with slight pigmentation for a time, and then disappearing entirely, with no vestige of former activity remaining, but with a history of lesions being practically always present, in some stage of evolution. Wende calls attention to Corlett's cases, in which some of the lesions occur as rings within rings, following the lines of evolution established by the first, and stated that Adamson's case presented the same peculiarity. Case 2, here reported, at times presents these lesions. The histologic pictures in the few cases agree in the essential features. The edema is undoubtedly slow in formation and of no great severity, thus accounting for the fact that vesicles and bullæ have not been noted. In the section from Case 2, there were no plasma cells and the sweat glands showed very slight change or infiltration, as noted in Wende's case. This may be explained by the fact that the piece excised was an early lesion in the course of formation and perhaps had not reached its maturity.

The attempted classification of the erythema group at the present time will be productive of higher mental aviation than with most of the other groups of dermatologic affections, and certain etiologic facts

must be established before logical classification will be complete. The disease, when one first encounters it, has may features suggesting it to be a separate entity; the distribution, the evolution and involution of the lesions, its chronicity, lasting many years, perhaps a life time, the patient rarely being free of the lesions. The distinctive circinate and gyrate patches, the great similarity of its course in the cases reported, the rather constant histologic features and the rebelliousness to all forms of treatment would seem to almost automatically separate

Fig. 1.—Erythema Figuratum Perstans.

it from the erythema group, but looking at it in a broad sense, the most striking feature is that it is an erythema affection in all respects, in a chronic form, and it requires no very great stretch of the imagination to understand that a toxin, which acts only at times, and under certain conditions, may also be constant and produce constant lesions. In the erythema perstans of the face, the lesions greatly resemble some of the lesions described in these cases, in their clinical appearance, behavior and duration, but as the face lesions occasionally develop into lupus erythematosus, the development of lupus erythematosus immedi-

ately removes these particular cases from the erythema group. While Osler's cases of visceral manifestation are not exactly of the same type as the cases embodied in this report, his views on the erythema group cover the subject so thoroughly for an understanding of the various types, that I can do no better than to quote him.

"The members of the erythema group have not all the same etiology, and, indeed, as is well known, the individual members have a very diverse etiology, for example, the urticaria of cholelithiasis, of ague paroxysm, that which is caused by eating shell-fish or strawberries, the urticaria of hydatids, and an

Fig. 2.—Erythema Figuratum Perstans.

asthma attack have the same clinical and anatomical features, though caused by a variety of poisons—bacteria, protozoa, vegetable and metabolic. It is not unlikely that the poison in itself, of whatever kind, is of less intrinsic importance than certain transient aspects of cell metabolism. In the first place, there is no constancy of action of the same poison in different persons, or even in the same person at different times. This is notoriously the case of the animal and vegetable substances causing urticaria. In the second place, the chronic form of urticaria probably illustrates a morbid and persistent sensitiveness of the cutaneous vessels to poisons of either intestinal or tissue origin. Thirdly, the importance of local status is shown in that remarkable form of urticaria, which comes on after exposure to cold; so long as the face is at a tempera-

ture of above 60 degrees Fahrenheit, the patient is all right. Exposure at 40 degrees Fahrenheit is followed at once by an outbreak of urticaria; lastly, a peculiarity that may be transmitted through several generations, as angioneurotic edema, which is only urticaria 'writ large', must either be a morbid susceptibility of tissue or an inherited peculiarity of metabolism, or both combined."

The only additional thought to be added for a more modern conception would be a constant sensitization of the patient to some unknown toxin, namely anaphylaxis. While it is true that erythema figuratum perstans may be somewhat different from our conception of acute erythema multiforme in the clinical picture, the evolution and involution of the lesions and occurrence, is it not more convenient for present practical purposes, to keep erythema figuratum perstans in the erythema group, as a chronic erythema multiforme perhaps, until its final classification on etiologic grounds?

In the above two cases, practically identical with those reported by Wende and others, the suggestive classification is that of a chronic erythema multiforme of a peculiar type. Instead of appearing in acute exacerbations as in the acute form and in the usual locations, erythematous circinate lesions appear constantly over the trunk and extremities. The real etiologic factor is unknown but the apparent cause is a toxin in the blood exerting a selective clinical activity on the epidermis and the superficial capillaries especially. While the lesions may show marked improvement under local remedies such as chrysarobin, salicylic and benzoic acids, the relief is very temporary and fungi have not been found in the scales thus far.

In Case 2, a very strict vegetable diet over a period of six weeks produced no result, neither did the injections of emetin after the discovery of ameba in the teeth pockets. Local origin is untenable for the histologic picture is not that of a local infection and new lesions occur over widely separated areas, and cultures were negative, except for staphylococci. The reference to Osler's severe cases may seem far fetched at first glance but a study of the chronic intermediary types with erythematous lesions and grave uremic disturbances on one end, with mild erythematous efflorescences of the hands and face on the other, as in erythema multiforme, would make the inclusion in the erythema group, instead of a distinct entity, seem logical.

DISCUSSION

DR. WENDE said that inasmuch as Dr. Mook had concurred in the interpretation of a group as a whole, he wished to especially call attention to one case that did not correspond to the rest of the cases, and he included as well the cases reported by Dr. Mook. He had a photograph of that patient, and he made a special point to call on her a week ago and found that she was still in the same condition that she was about ten years ago. In this case the cutaneous disease began at birth. There was a persistent, scaly erythema until she arrived at the age of 5, at which time the erythema began to disappear,

and then the lesions, which had been no better described than they had been by Dr. Mook, had persisted ever since. This case corresponded to the one which was originally reported by T. Colcott Fox, in the *International Atlas of Rare Skin Diseases,* under the title, "Erythema Gyratum Perstans." He suggested the case was represented by being an anomalous type of erythema multiforme. In that report he also referred to another individual in the same family having and presenting a like condition.

Those of the members who attended the International Congress in London saw another instance of the same disease there, presented by Dr. Graham Little. Dr. Graham Little's case, the T. Colcott Fox case, and these cases corresponded exactly. This condition, as he had said, was present at the time of birth and had persisted ever since, uninfluenced by season, uninfluenced by treatment, and he had nothing to offer as to the etiology of this condition.

He presented a photograph of the patient before mentioned.

Dr. Hartzell said that the classification of diseases not only of the skin but of all other organs in many instances went through two stages. In the first place, we had a lot of diseases that were apparently classified according to their symptoms. A little later we learned their etiology, and then we lumped them under one term. They were simply examples of this or that disease. Erythema multiforme, the whole group of exudative erythemas, were undergoing that process. We had a great variety of erythemas classified as erythema multiforme. We will probably learn after a while that a considerable number of them represent varying forms all due to one etiologic factor. A little later, when we classified certain diseases according to their etiology, we also learned that different causes might give rise to practically the same sort of symptoms. He could give a better illustration than to speak of the close clinical resemblance which existed between verucous tuberculosis of the skin and blastomycosis. All will agree that the clinical diagnosis is very difficult at times, perhaps impossible, yet they were due to two wholly different organisms, quite unrelated, so that this erythema multiforme group was still in a process of evolution. A considerable part of them may be due to a common toxic substance, and others due to wholly different agencies.

Dr. Engman said: With reference to classification, it was essentially one of an etiologic basis. The erythema group, as Dr. Hartzell said, had been undergoing great changes in the last few years, and, it seemed to him, it was time, now that the way had been pointed out by internists and physiologic chemists, to produce an erythema etiologically which most of us would call a distinct entity. So it was with a great many other skin diseases, and in this group probably belonged a lot of the so-called erythemas and angioneurotic edemas, as pointed out by Osler. It would be interesting to follow the cases of children after they had had erythema multiforme or slight erythematous lesions extending through many years. The speaker had seen several of these cases and had followed the history when seen in others and they came in with rather grave cutaneous diseases; their histories were followed back through the years. For instance, they had such cases of an infection occurring twenty years before, accompanied by rheumatism, tonsillar involvement, which had persisted for years until there was a final breaking up of the individual lesions of the erythema group, even up to the development of gangrene, and finally there was the development of endocarditis and small visceral abscesses. There have been groups of individuals in whom there had been produced chronic urticaria for a good many years, and perpetual erythema, that ended in streptococcus abscess of the gallbladder. Then there were many conditions pointed out by Longcope, in which there was intermittent leakage into the general circulation of various tonsillar conditions or other focal infections which developed as a nephritis. Some of these cases were accompanied through the years by manifestations of the erythema group. Dermatologists have pointed out, after studying the skin in the last few years very carefully, these conditions and have given names to a great variety of eruptions. It was probable

that the erythema group was a part of the etiologic factors—what Dr. Brocq calls cutaneous reaction, the skin acting in a definite pathologic reaction to various stimuli and poisons. We had leakage from the intestinal canal in the course of digestion; the proteins were not broken up perhaps and therefore there was leakage into the general circulation which caused probably the various disease groups.

It seemed to the speaker, that we must, as Dr. Mook had essayed in his paper, try to place a lot of these things, given different names and different entities, which were merely symptoms in the general group of erythema as suggested by Osler.

DR. MACKEE said that Dr. Mook mentioned the finding of abscessed teeth in the second case in which he found the entameba. This patient did not respond to injections of emetin. The speaker thought that the patient ought to have been examined for the streptococcus and treated by the use of vaccines and removal of the abscess.

The classification of the erythema group was in about the same state of chaos as that of eczema, and included a number of entities. As an illustration attention was called to a case at the Vanderbilt Clinic which had been under observation for a couple of years. The eruption began apparently as an erythema, and as far as could be ascertained by histologic studies and clinical observation, it was turning into a case of lupus erythematosus. The speaker also had under observation a group of four or five cases in the same institution, and one remark Dr. Mook made about his second case caused the speaker to recall this group. In his second case Dr. Mook said the lesions recurred, that is, recurrence each time was in the same lesion. Clinically the speaker's cases were identical although the etiologic factors varied. A description of one case would answer for the entire group. The eruption consisted of palm-sized, oval patches of erythema without subjective symptoms. After a few months the erythema disappeared, leaving a marked pigmentation. There was never any vesiculation nor exudation. The two peculiar features of these cases were: in the first place, every few months there was a recurrence, and the recurrence was always in the pigmented patch. The pigmentation itself never disappeared. Histologically, it was impossible to separate the lesions from the erythema group. The only unusual feature was the presence of chromatophores in the derma.

In all probability the erythema group would eventually be broken up with a number of entities as soon as we possessed a greater knowledge of the etiologic factors.

DR. HEIMANN said that he was astonished at the number of varieties of given pathologic processes when it came to all the manifestations that appeared in the skin. The skin could respond in an acute inflammatory manner only in a few ways. and it was no wonder, that being the case, that a great many diverse causes could produce similar pictures, and it was similarly commonplace to admit that some cases could produce a variety of different clinical pictures. For instance, iodid. Everybody knew how many different skin pictures it may produce. The first way in which the skin responded to an inflammatory process was by getting red and it was not at all astonishing for that reason that a great variety of clinical pictures grouped under the name erythema should have so many of the etiologic factors that had been enumerated by Dr. Engman in his paper. He did not know whether we as dermatologists should continue for the present to group cases subjectively, namely, according to what we saw, or attempt to group them etiologically. He thought we will have to adopt the latter process if we were to have a clear concept of what we were dealing with, in an etiologic manner.

These cases Dr. Mook referred to were interesting from an etiological standpoint. The speaker recalled one case under consideration at the Vanderbilt Clinic, which was originally seen by Dr. Howard Fox, who sent him specimens of tissue to examine microscopically. In this case the lesions always

appeared at the same site after the patient took a patent medicine called "ex lax." We doubted this, and Dr. Abramowitz, who investigated "ex lax," showed that her erythematous lesions persisted and followed the course that had been previously followed with the other attacks after taking that remedy. The microscopic sections looked precisely like those of other cases of erythema. The pigment was not due to the presence of chromatophores. We worked that out by using a reaction stain. We had a distinct group of lesions, a sub-group of erythema perstans. These lesions persisted and became pigmented, but only one of that group of five or six cases was caused by a particular thing. What the others were caused by we did not know.

For the sake of statistics, we must catalogue skin conditions and try to find out what causes the disturbance; the common causes were toxins which produced erythema, consequently there were more diseases classed as erythemas than any other type of dermatoses we saw. We will have to narrow down gradually, but we can only do it by experience, and the speaker did not think it was important by what name an eruption was called.

FOCAL INFECTION IN THE ETIOLOGY OF SKIN DISEASE*

ERNEST DWIGHT CHIPMAN, M.D.
SAN FRANCISCO

The influence of focal infection in the etiology of systemic disease, so convincingly revealed by Billings, Rosenow and others, suggests a fruitful field for research in dermatology. This is true not only because so many dermatoses are of obscure origin but also because the enunciation of this new doctrine has brought with it a distinct and direct contribution to our special branch of medicine. Its indirect value must largely depend on the application we shall make of the principles it has established.

Possible sources of infection are pyorrhea dentalis, alveolar abscess, acute or chronic tonsillitis, diseased lymphoid tissue of the nasopharynx, lymph nodes of neck and mediastinum, mastoiditis, sinusitis of the maxillary or other accessory sinuses, submucous or subcutaneous abscesses, chronic infections of bronchi and bronchiectasis, chronic infection of gastro-intestinal tract and auxiliary organs of digestion, including cholecystitis, appendicitis, intestinal ulcers and intestinal stasis due to morbid anatomic conditions, chronic infection of genito-urinary tract, including metritis, salpingitis, vesiculitis seminalis, prostatitis, cystitis and pyelitis.

Nor is this all. Infected lymph nodes, as secondary to these primary foci, become additional depots of localized infection. All infections of the head may be associated with secondary infection of the lymph nodes of the neck and mediastinum. These secondary lymph node infections may persist after the etiologic, distal, primary focus has been removed. In 600 autopsies with especial reference to the infection of cervical lymph nodes, Kretz (quoted by Billings) records streptococcic infection of the glands in 90 per cent. of the bodies examined.

From a focus in any of these tissues or organs infectious material may be disseminated by way of blood vessels or lymph channels, causing many general affections, prominent among which are various forms of muscular and joint disease, formerly known as rheumatism, and certain nerve disorders as neuritis, perineuritis, etc. At least two dermatoses have been quite conclusively shown to be caused by such

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* Read before the Forty-First Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

dissemination of infection from a primary focus, namely, erythema nodosum and herpes zoster. Of these the former has always been classed with the rheumatic group while the latter has been regarded as some sort of nerve infection.

If we reason by analogy it will seem that the dermatoses which were for a long time supposedly due to the so-called rheumatic state and those which, even today, are associated in some vague way with disorders of the nervous system, may possibly have an origin akin to that of the general condition which each is supposed to typify.

Starting with these two groups we may add one comprising the skin diseases which have for a long time been considered as arising from a tuberculous focus and another consisting of certain streptococcic affections such as impetigo, eczematoid dermatitis, etc., which may originate in some latent focus within the skin itself. In respect to these groups the doctrine of focal infection is not new.

If we accept it as established that anaphylaxis results from focal infection we must consider it possible that the dermatoses caused by hypersensitiveness are ultimately due to focal infection.

Allowing for certain other dermatoses not properly included in any of the above groups we are justified in arranging, provisionally at least, the dermatoses possibly due to focal infection in six groups, as follows:

Group 1.—Those considered in some relation with arthropathy: 1, Erythema nodosum; 2, Erythema multiforme; 3, Eczema (gouty); 4, Psoriasis.

Group 2.—Those considered in some relation with neuropathy: 1, Lichen planus; 2, Lichen simplex (Vidal); 3, Herpes simplex; 4, Herpes zoster; 5, Eczema (neurotic); 6, Alopecia areata; 7, Dermatitis herpetiformis; 8, Scleroderma; 9, Vitiligo.

Group 3.—Those considered in some relation with tuberculosis: 1, Erythema induratum; 2, Lupus erythematosus; 3, Lupus vulgaris; 4, Lichen scrofulosorum; 5, Various tuberculides.

Group 4.—Those arising from a focus in the skin itself: 1, Impetigo contagiosa; 2, Infectious eczematoid dermatitis; 3, Various streptococcic infections.

Group 5.—Those considered in relation with anaphylaxis: 1, Eczema; 2, Urticaria; 3, Erythema multiforme; 4, Angio-neurotic edema.

Group 6.—Miscellaneous: 1, Rosacea; 2, Granuloma annulare; 3, Chilblains; 4, Raynaud's disease.

It is obvious that if all, or even a large portion, of these dermatoses can be traced to focal infection our textbooks on dermatology must be radically revised. This paper does not attempt to establish definitely such connection with respect to any disease. Its aim is to report the observations in fifty consecutive cases belonging to this provisional list of suspected diseases. It records for the most part only the incidence of focal infection in these cases. This list will doubtless be restricted or amplified with further investigation.

Extended discussion concerning all the members of each group is not necessary. If the general principle of focal infection as an etiologic factor in skin disease is granted, a consideration of its possibility in any of the dermatoses mentioned is in order.

So far as Group 1 is concerned the general acceptance of the relationship of a given skin disease with the so-called rheumatic state would, *ipso facto,* place them both in the same etiologic category. The more definite the relationship the more securely is the skin disease fixed in its position. The less definite the relationship the more need of evidence and judgment.

Erythema nodosum, for example, is most firmly associated with the rheumatic diathesis. It is by general consent admitted to this group. Its case may be said to be proven. Erythema multiforme will possibly be admitted without much debate.

Concerning certain eczematous reactions sometimes spoken of as "gouty eczema," there is room for discussion. Of course there is no such specific state as gouty eczema. Eczema occurring in subjects who are prone to suffer from various arthritides may perhaps come under suspicion of originating in the same source.

Psoriasis, while sometimes spoken of as a disease of otherwise healthy individuals, is often associated with the rheumatic state. Its response to seasonal and climatic influences has often been noted. For this reason, and because of its generally obscure etiology, it was thought worthy of investigation along this line. The concurrence of this disease and focal infection has been so striking in the cases already studied as to make further observations worth while.

The dermatoses considered in relation with the nervous system present most interesting possibilities of investigation. For the most part they are made up of sharply defined eruptions, for example, lichen simplex chronica, herpes simplex, herpes zoster, vitiligo, circumscribed scleroderma, etc. Each of these is clean cut; each apparently is in relation with some definite area of nerve supply. If a localized neuritis, expressed clinically as pain, numbness or tingling, results from a focus of infection, why may we not interpret various localized skin manifestations as the result of a like infection, the variety of the cutaneous expression depending on the situation, the degree or some other factor of infection in the nerve?

Certain members of this group demand more than passing notice. The first of these is eczema. While we recognize many eczematous reactions as due to external influences, we see many in which internal factors must be considered. Of these a certain percentage are what some have called neuritic eczema. There are more or less constant elements in the clinical picture of this variety. It has a tendency to symmetrical distribution; it presents sharply circumscribed patches; it

is more resistant to external treatment than other forms. Ehrmann, in his Vienna clinic, fifteen years ago, insisted on the frequent association of chronic appendicitis with this type of eczema.

Alopecia areata has been the subject of much debate with respect to etiology. It is interesting to recall, when we consider it as possibly the result of focal infection, how closely certain facts and theories that have been adduced are connected with the facts as we view them in relation with focal infection. First of all is the work of Joseph and others in experimentally producing the disease by section of a cervical nerve. Next is the relation of diseased teeth as revealed by Jacquet's dental theory. Finally comes the interesting observation of Sabouraud that some cases of alopecia areata are due to nerve pressure from enlarged glands.

The relationship of herpes zoster with focal infection seems established. To quote from Billings: "That herpes zoster may be the result of specific infection of the ganglia of the posterior roots of the spinal nerves and the etiologic infectious microörganisms may be isolated from the infected tonsils and other foci, has been demonstrated with patients in our clinic. With the strains of the isolated bacteria, herpes zoster has been produced in intravenously injected animals and the streptococci have been recovered from the posterior root ganglia of the inoculated animals."

The frequent association of herpes simplex with such acute infectious processes as coryza, pneumonia and certain fevers has long been noted. In cases not associated with any acute infection the existence of some chronic focus may reasonably be suspected.

With respect to the diseases of the skin more or less closely associated with tuberculosis, it is apparent that the inclusion of such a group will widen the list of possible foci to include the lungs, bones and many other tissues.

A careful consideration of the dermatoses originating in some focus within the skin itself may be urged. Recurrent attacks of impetigo, intertrigo, infectious eczematoid dermatitis, perleche and various other streptococcic infections of the skin are often directly due to transference by scratching from some latent focus in the skin itself as the retro-auricular fold. There seems to be no reason, therefore, why these conditions should not be included in the list of dermatoses sometimes resulting from focal infection.

Of the skin diseases commonly associated with hypersensitiveness, eczema, urticaria, erythema multiforme and angioneurotic edema are conspicuous examples. In many cases the subject comes with a definite knowledge of the offending substances, be it foodstuff, pollen or bite of insect. In some cases a systematic inquiry will determine it; in others no amount of patient endeavor will yield information of value. If

we accept the teaching of present day immunologists that focal infection may be the cause of anaphylaxis, it would seem that every dermatosis which is associated with this phenomenon should be systematically studied with reference to such association.

Beyond these clearly defined groups there are a few miscellaneous diseases in which the occurrence of focal infection has been noted. Among these are rosacea, granuloma annulare, chilblains, Raynaud's disease and doubtless others. The subjoined table will present what evidence was revealed in a limited number of cases.

The statement that thyroiditis results from focal infection may have an important bearing on dermatology. Certain skin diseases are sometimes apparently associated with abnormal thyroid conditions, as urticaria and some forms of alopecia. An interesting association of symptoms which I have several times noted may be worthy of mention in this connection. It is the occurrence in subjects of enlarged thyroid of chilblains and an ischemia of the finger tips, suggestive of a mild form of Raynaud's disease. In none of these cases were the chilblains and ischemia concurrent. There seemed to be rather an alternation. The ischemic condition was noted in individuals in whom the chilblain circulation was apparent and by whom the tendency to chilblains was admitted. That any one or all of these conditions may be caused by focal infection seems worthy of consideration.

Appended is a table of fifty cases which were investigated as far as opportunity permitted with reference to focal infection. A summary of these indicate that:

Of six cases of alopecia areata, five showed infection of teeth and one marked postcervical and postoccipital adenopathy. Of two cases of chilblains each showed infection of teeth. One case of dermatitis herpetiformis showed infection of teeth. Of four cases of circumscribed eczema each showed infection of the teeth. One case of erythema induratum showed infection of the tonsils. One case of erythema nodosum showed infection of the tonsils. Of two cases of erythema multiforme one showed infection of the appendix and one infection of the teeth. One case of granuloma annulare showed infection of the teeth. Of two cases of herpes progenitalis one showed infection of the appendix and one of the maxillary sinus. Of two cases of herpes facialis each showed infection of the teeth. Of four cases of lichen planus each showed infection of the teeth. Of two cases of lichen simplex of Vidal each showed infection of the teeth. Of seven cases of psoriasis five showed infection of the teeth, one infection of both tonsils and teeth while the remaining one was apparently free. A roentgenogram was not made of the teeth in this case for the patient, though over 30 years of age, had apparently a perfect set of teeth and had never had a single cavity to be filled. One case of Raynaud's

disease showed infection of the teeth and tonsils. Of seven cases of rosacea each showed infection of the teeth and one showed in addition an infection of the appendix. One case of psoriasiform seborrheide showed infection of the tonsils. Of two cases of urticaria each showed infection of the teeth. Of three cases of vitiligo each showed infection of the teeth and two cases of zoster likewise showed tooth infection.

Condensed Summary of Fifty Cases

	Cases
Infection of teeth alone	35
Infection of teeth and tonsils	4
Infection of teeth and appendix	1
Infection of appendix	3
Infection of tonsils	4
Infection of lymph nodes	1
Infection of accessory sinus	1
No infection found	1
Total	50

These findings will require some interpretation. Either they signify a great deal in respect to the cause of the dermatoses concerned or they simply mean that 98 per cent. of people in general harbor some area of infection. It argues nothing to state that many individuals show foci of infection with no apparent clinical consequences. Doubtless much more complete and specialized statistics will be required. If, for example, forty-nine out of fifty cases of any single disease could be reported as showing focal infection it would be of great significance. These statistics, however, may be suggestive of the broad field that awaits fuller investigation.

One circumstance observed in several cases of this series merits special remark, namely, the tendency to the development of symptoms on interference with an active focus.

In the case of erythema induratum, for example, there were markedly diseased tonsils. In spite of this the lesions were healed under the influence of local and general treatment. This was three years ago. Three months ago the tonsils were removed and shortly thereafter a recurrence of the indurated nodules was noted.

The onset of the lesions in the case of psoriasiform seborrheide was noted during the convalescence from an operation for infected tonsils.

In one case of rosacea a marked exacerbation followed active treatment of an apical abscess. This, however, soon subsided and was followed by a corresponding improvement.

In one of the cases of neuritic eczema in which two apical abscesses were treated, a slight exacerbation followed the interference with the teeth. This was followed by a month in which no progress was made,

at the end of which interval the condition spontaneously resolved. During all this time the external treatment was purposely unchanged.

The development of the single case of circumscribed scleroderma followed closely on the removal of infected tonsils. This operation was incomplete and the stumps remain in a palpably infected state.

One of the cases of erythema multiforme occurred during the patient's convalescence from an operation for chronic appendicitis with adhesions.

Another point worty of emphasis is that it is not necessary to find the same microörganism in the skin lesion that is found in the original focus in order to suspect the latter of being in etiologic relationship with the former. The result may be brought about through the medium of the nervous system. In experimental zoster, for example, streptococci are found, not in the cutaneous lesion but in the posterior root ganglia, and in macular leprosy the Hansen bacillus is not found in the skin but in the nerve tissue.

That cure of a cutaneous reaction does not always follow promptly on the removal of a suspected focus signifies nothing for the reason that secondary foci may remain.

It would seem probable that the effect of focal infection on the skin is specific in some instances and not in others. In zoster, for example, the action is apparently specific. In acne, on the contrary, if there be any relationship it seems indirect, through a lessening of resistance in general. While acne was not included in this series several cases have been noted to improve while others have seemed to be accentuated after tonsillectomy. In each instance, however, the improvement, or the reverse, has seemed to depend on the effect of the operation on the subject's general condition.

Viewed in this light it is conceivable that the indirect effects of focal infection may extend over a wide range of skin reactions.

No.	Disease	Site of Infection
1	Alopecia areata	Apical abscess
2	Alopecia areata	Apical abscess
3	Alopecia areata	Infected lymph nodes·
4	Alopecia areata	Teeth and tonsils
5	Alopecia areata	Apical abscess
6	Alopecia areata (beard)	Pyorrhea
7	Chilblains	Pyorrhea
8	Chilblains	Apical abscess
9	Dermatitis herpetiformis	Apical abscesses
10	Eczema (neuritic)	Apical abscesses
11	Eczema (neuritic)	Apical abscesses
12	Eczema (neuritic)	Apical abscesses
13	Eczema (neuritic)	Apical abscesses
14	Erythema induratum	Tonsils

15	Erythema nodosum	Tonsils
16	Erythema multiforme	Pyorrhea
17	Erythema multiforme	Appendix
18	Granuloma annulare	Pyorrhea
19	Herpes progenitalis	Appendix
20	Herpes progenitalis	Maxillary sinus
21	Herpes labialis	Apical abscesses
22	Herpes labialis	Apical abscesses
23	Lichen planus	Apical abscesses
24	Lichen planus	Apical abscesses
25	Lichen planus	Apical abscesses
26	Lichen planus	Apical abscesses
27	Lichen simplex chronica	Apical abscesses
28	Lichen simplex acuta	Apical abscesses
29	Psoriasis	Negative
30	Psoriasis	Pyorrhea and abscess
31	Psoriasis	Apical abscesses
32	Psoriasis	Apical abscesses
33	Psoriasis	Apical abscesses
34	Psoriasis	Apical abscesses
35	Psoriasis	Apical abscesses and tonsils
36	Raynaud's disease.	Apical abscesses and tonsils
37	Rosacea	Pyorrhea and abscesses
38	Rosacea	Pyorrhea and abscesses
39	Rosacea	Apical abscess
40	Rosacea	Apical abscess and tonsils
41	Rosacea	Apical abscess and appendix
42	Rosacea	Apical abscess
43	Seborrheide (psoriasiform)	Tonsils
44	Urticaria	Apical abscesses
45	Urticaria	Pyorrhea and abscesses
46	Vitiligo	Tonsils
47	Vitiligo	Apical abscesses
48	Vitiligo	Apical abscesses
49	Zoster	Apical abscesses
50	Zoster	Apical abscesses

DISCUSSION

Dr. Sutton said that this subject which had been brought before the Society stimulated the suggestion that cutaneous lesions could result from focal infections, as apical granulomas, apical abscesses and chronic tonsillitis. The four points that we usually looked for in these chronic infections were the teeth, tonsils, appendix and prostate in man, and often one could locate the source of infection in one of these four places.

During the past year through the cöoperation of colleagues, they took 100 cases of skin diseases, and in 25 per cent. of them they were unable to trace any direct relation between the focal infection and cutaneous disease, but 75 per cent. of the cases were improved markedly or completely after finding the focus of infection and removing it.

The speaker presented Roentgen-ray films of a few cases before the Society.

One was a case of lichen planus labialis, with multiple granulomas. In this case the removal of the foci of infection was followed by a cure. In every case the cures extended over a period of five months or longer, where there were multiple granulomas around the roots of teeth.

Another was a case of chronic eczema of the limbs in a man, 50 years of age, which failed to respond to any treatment until his teeth were cleaned up.

Another was a case of chronic urticaria of the recurrent acute type in a woman who had been treated more or less continuously for five years, but she had been free from the disease since last November.

The speaker presented another set of slides showing vesicular and pustular eruptions of the feet. He had had two or three cases of vesicular eruption in which the disease attacked the soles and margins of the feet, and had recurred. There was nothing demonstrable except the staphylococcus. One man had joint symptoms which cleared up after the infected or decayed teeth were removed, and the skin eruption disappeared within forty-eight hours, and he had had no trouble since.

Another case was one of successive attacks of erythema multiforme. This woman was seen first in 1916, but shortly after the removal of the focal infection in her case the skin manifestations cleared up and she had been free from them since.

Another was a case of a physician who had considerable trouble due to defective teeth. Two of his teeth were treated and two were extracted with gratifying results.

They did not hesitate, said the speaker, to advocate the use of a vaccine from the organism, which was the streptococcus viridans almost invariably, in the chronic cases that did not apparently respond to the removal of the foci of infection.

DR. MACKEE said that evidence was accumulating to show that focal infections were the direct or indirect causes of several if not many dermatoses. The relationship had not been proved but the fact that such an affection as erythema nodosum was due to the streptococcus from the circulating blood and the fact that many cases of acute and chronic skin disorders had disappeared after the removal of a pus focus was certainly suggestive. Dr. Chipman deserved credit for presenting the subject to the Association for discussion and he was to be congratulated not only for his excellent observations but also for the conservatism with which they were presented.

While fully cognizant of the importance of focal infection the speaker thought there was danger of the pendulum swinging too far the other way. He particularly desired to emphasize the dangers of radiography—especially as related to faulty interpretation. The speaker had examined the dental roentgenograms presented by Dr. Sutton and he agreed with Dr. Sutton's interpretation in every particular. On the other hand, he had frequently seen dental roentgenograms on which the dentist or the roentgenologist had carefully indicated, by means of an arrow, an apical shadow which was thought to be a pus pocket. On careful examination the shadow was found to be caused by some normal anatomical structure, by a faulty angle of incidence, by distortion, etc.

Interpretation of roentgenograms required considerable experience and a fair degree of common sense. Furthermore, the roentgenograms should be of good photographic quality and roentgenologically accurate. The angle at which they were taken was of the utmost importance and a knowledge of all possible errors was necessary to allow of a proper interpretation. One should be familiar with the overlapping shadow of the antrum, of the nasal fossæ, of the inferior dental foramina, etc., for these shadows often markedly simulated those of apical abscesses. In suspicious cases it was always wise and in some instances indispensable to take several roentgenograms of a tooth at different angles, both in the mesio-distal and the superio-inferior planes. This would not only prevent artifacts and anatomical shadows from being mistaken for abscesses but it would prevent a "hidden" abscess from being overlooked. The superior second bicuspids had two roots and the upper molars possessed from one to three roots. In a single roentgenogram the shadows of two roots of a tooth might be superimposed and an abscess obscured. Roentgenograms taken at different angles would prevent such a mistake.

One more point. Should every dark shadow around an apex be regarded as an active infective focus? A dark shadow simply indicated lessened density —decalcification. For instance, a patient might have had an abscessed tooth twenty years ago at which time it was treated and finally filled and gave no more trouble. In such an instance could one state positively that the dark shadow represented infection? Might not the bone at the site of the former trouble be anatomically abnormal without the infective process continuing for twenty years? These were points on which dentists had failed to agree and they were worthy of consideration and investigation.

The point that the speaker wished especially to emphasize was that one should hesitate to depend exclusively on the roentgenogram. The roentgenogram should be taken and studied by one who was properly experienced in both technic and interpretation and the findings should be added to the clinical or dental data accumulated by a modern dentist who was fully cognizant of the importance of arriving at a correct conclusion.

Unless we guarded against faulty interpretation, overenthusiasm, etc., psoriatic and acne patients would be losing teeth unnecessarily.

Dr. Zeisler said that the paper of Dr. Chipman was so full of suggestions and so rich in material, that he believed very few of us will go away without taking something along to think of. We should be on the lookout in the future in any case where the etiology is obscure to see if we could find help from looking for a focal infection. The speaker could not help, however, while listening to the paper, to think of various periods in dermatology that we had gone through. He had in mind particularly one matter of over thirty years ago, which was characterized by the attempt to trace all eruptions of the skin to the influence of nerves, and from that time there originated the handbook by Kupp, of Muenchen, on the tropho-neuroses of the skin. It was not safe to try to force the etiology of all skin diseases in one certain scheme. We must be open to the knowledge that various causes may be able to produce the same picture.

Some emphasis was laid in this paper in quoting Dr. Billings in regard to herpes zoster. A typical case of herpes zoster will follow the use of arsenic, so-called arsenical zoster, and how shall we harmonize these things? The speaker believed there was great value in discussions of this sort. They should stimulate us to carefully examine every individual case, but from a different point of view. Dr. MacKee had warned us against the possibility of generalization. We must not try to enforce the whole scheme of the etiology of skin diseases into this one paradigm.

Dr. Robert H. Davis said that he recalled a case of dermatitis herpetiformis that came under his observation which nothing seemed to help, and finally he noted the man had pyorrhea alveolaris. He found the entameba and gave emetin, and the dermatitis herpetiformis healed immediately. That encouraged him to examine other cases, and during that spring all cases of dermatitis herpetiformis that had pyorrhea alveolaris were treated in the same way. There were six or eight cases altogether. There were no cases that did not get well. Of those that recovered, a few remained well, but some recurred, and with each recurrence the cure with emetin was progressively harder. In some of those in which the disease recurred they could not find the entameba, but it would seem that while the focal infection was the cause of the symptoms of dermatitis herpetiformis, there must have been some other infection as the cause of the recurrence.

Dr. Schamberg said that Dr. Chipman deserved great credit for bringing this subject to the attention of the Association. The speaker was fully in accord with the two last speakers in the expression of the sentiment that while doubtless many skin affections were due to focal infections, yet we must be careful not to credit to a large extent these factors in the causation of any of the diseases of the skin. Dr. Chipman very properly inserted in his paper

as a reservation that these factors might on further experience be limited in their application to the causation of skin diseases, or they might be extended. There was always with the injection of any new method of therapy or any new idea as to etiology, a tendency on the part of some to extravagant and exaggerated claims. On the other hand, on the part of others there was undue incredulity and skepticism, and, it seemed to him, as the members of a scientific body we should endeavor to steer between Scylla and Charybdis. There was no doubt that many cutaneous affections were due to focal infections. The speaker mentioned a well-known textbook in which the author stated that a case of long standing urticaria in a woman did not disappear until after the excision of pyosalpinx. We know that cases of herpes simplex occurred dominantly in certain infectious diseases. We know, for instance, that herpes simplex was so common in epidemic cerebrospinal meningitis, malaria and pneumonia, that it was a diagnostic symptom of no mean import. On the other hand, with another infection in particular, typhoid fever, it was so rare that it was almost negatively pathognomonic, if one may so express it.

He believed that we should go away with the thought that wherever the etiology of any skin affection was obscure, a possibility of some cryptic infection should be considered and thoroughly studied.

If any of our cases should come to necropsy, there was one word of caution which should be mentioned. This, of course, was well known to pathologists, namely, that there was after death, very commonly, a postmortem diffusion of micro-organisms, such as the streptococcus. Streptococci may be found in various organs which did not exist in these organs prior to death. He believed the better general practitioners we were, the better specialists we were going to be, because great advance in the science of medicine was only possible through specialization, yet there was always danger of looking at spots through the spectacles of our own specialty.

DR. ENGMAN said that there was no doubt that a paper, such as Dr. Chipman had presented, was very suggestive and will help to clear the field of focal infection. He had gone over a great many diseases which belonged to this group and some which did not. Certainly, focal infections will prove to be a great etiological factor in skin diseases. We did not know where it will reach, and in the study of the cases of disease we must look to all points and all possible sources for etiological factors.

There had been an intensely interesting study carried on at Washington University, St. Louis, and at the Barnard Skin and Cancer Hospital, where they had had some striking illustrations. There were two cases which the speaker said he would like to recite as illustrating this group of diseases.

One of these patients was a man who was seen nine years ago, who had a superficial gangrene of the fingers and gangrenous spots on the penis with Raynaud's phenomena of both hands and feet. He was treated in every possible way; we thought it was syphilitic. He disappeared for a time. He returned after nine years with his toe nails extracted, and the nails on his hands and fingers were scarred, but he was still having some trouble. In the meantime, focal infection had been studied and it was found that he had an awfully foul mouth. His mouth was entirely cleaned up, eliminating a condition he had had for about twelve years—a constant, virulent, intermittent infection. Immediately after his mouth was placed in good condition, some of his teeth filled and others extracted, his whole objective and subjective symptoms disappeared. He remained well for some months. No doubt this case was due to intermittent poisoning from the gingivitis and pyorrheal abscesses. A focal infection may become latent.

We have one instance of a woman with focal infection from the sinuses, presumed to have existed or started twenty-five years ago, with rheumatism and endocarditis. She came to the hospital with gangrene. We saw her at other times with slight gangrene of the fingers. After several years she had complete gangrene of the anterior portion of the foot. In her blood was

demonstrated the *Streptococcus hemolyticus*. She had had endocarditis, and the whole trouble originated from the focal infection some years ago.

We have had about eight or ten cases illustrating the value of recognizing focal infections. We must grasp the fact that focal infections may exist for many, many years, and every now and then we will see a case, such as Longcope had pointed out, in which there was a certain type of nephritis, after intermittent and more or less constant infection, causing a specific action on the kidneys. When this occurred, frequently the selective action caused certain eruptions of the skin. The speaker thought we must be sane about this thing, but every phase was worthy of study because it was really a new branch for investigation.

Dr. Morrow said that anything which will throw light on the subject of eczema deserved consideration. For a long time he had been having radiographs made of cases of dermatoses which resisted ordinary treatment, and he would like to mention two or three examples of eczema, one having eczema of the face and the neck during the course of many years. The skin was thickened and inelastic and the man suffered a great deal from violent pruritus. The condition of his mouth was very bad. Radiographs showed multiple dental abscesses. These abscesses were so large as to necessitate extraction of the teeth, and within a few hours from the time the infected teeth were extracted the man felt much better, and in a few days the rash had almost disappeared. From that time the eruption disappeared slowly, and in the course of a few weeks vanished entirely.

Another patient had a generalized erythematous and vesicular eczema, lasting for a number of months and the patient complained of pain in one ankle joint. After observation in the hospital the surgeon decided to open the joint. He did so and pus was found. As soon as the pus was drained the generalized eruption disappeared rapidly. The wound failed to close in readily. More pus formed in the joint, and in the course of a few days he had another exacerbation of a generalized eczema. The joint was again opened and pus drained, and the eruption again disappeared rapidly. This was some three or four months ago. The joint was entirely well, and since then there had been no recurrence of the eczema.

These two cases were reported because they are unusual. The speaker had a number of other cases of eczema that did not show focal infection, but where they were chronic he thought it was worth while to investigate these foci.

Dr. Heimann said he was asked to see the father of a colleague in New York who presented a typical picture of a case of pityriasis rubra of the Hebra type. He had the cutaneous manifestations of the disease, glandular enlargement, eosinophilia, and general emaciation which accompanied the disease. He gave the usual prognosis. He was nearly 60 years of age, and his occupation was that of an orange planter in Florida. His teeth were examined as a last resort and found in bad condition. To make a long story short, the carious stumps of teeth he had were extracted, and within two weeks the man was well and had been well since. It is now three years since the teeth were extracted.

The speaker thought we sometimes hit on the cause of focal infection which caused dermatoses by accident. Tuberculosis was a striking instance of a condition that we did not understand very well. He did not doubt that a great many cutaneous reactions, representing all sorts of clinical conditions, which we designated objectively as herpes zoster, lichen simplex, eczema, or psoriasis, were possibly due to local foci of one kind or another—streptococci or staphylococci. We had gained considerable knowledge relative to these organisms. We knew that the teeth, tonsils and appendix were sources of infection. Galloway proved, in 1912, the relation of a certain number of cases of erythema nodosum to rheumatism. We knew the work of Rosenow, which had been accepted or rejected for what it was worth. At the Detroit meeting of the American Medical Association this entire matter was gone into exhaustively

very much as Dr. Chipman had done. Certain things stood out, however. He did not doubt that focal infections perhaps were responsible for some of the conditions we recognized in dermatology. Let us take herpes zoster. We knew that typical cases of herpes zoster—and that was a matter he emphasized a year ago—was due to arsenic, as Dr. Ziesler had pointed out, perhaps due to all sorts of undiscovered combinations; but the species of herpes zoster that were objectively typical, as well as atypical in their course, which occurred once in a man's lifetime, conferred permanent immunity on the subject. How a focal infection which caused a disease like herpes zoster could confer immunity, or how a definite disease like psoriasis could be due to a simple reaction, to a hidden toxin, to a focal infection, was beyond him. He thought psoriasis and lichen planus were definite clinical entities, etiologically and clinically, as syphilis. Syphilis was due to one organism. It was no cutaneous reaction, neither to his mind was lichen planus or psoriasis.

Taking up the question of chronic lichen simplex, or pruritus, followed by lichenification; twenty years ago, when that was first described, it was considered a neuropathic disease belonging to the group Dr. Zeisler referred to. That was not the case. What we knew definitely about the disease was little. It started with iching in certain localities, and after the itching had existed for some time lichenification of the skin set in. What the disease was due to, he could not say. It did not act like a disease due to a hidden focus of pus somewhere. It was more likely a metabolic disturbance, perhaps a thyroid gland disturbance, or disturbances of a combination of the glands, and so on.

We knew of pyogenic skin diseases which had their origin in these focal infections. Cutler pointed out ten years ago a great many staphylogenic and streptogenic infections of the long bones occurring in people who had a mild acne. The explanation was that the organisms were conveyed through leaking into the blood to the bones, which subsequently became diseased.

There was great danger of overenthusiasm because this entire matter offered so much to us. Overenthusiasm had been characteristic of everything in medicine. Twenty years ago everything was explained on the basis of malaria. Then it was uric acid. The next year it may be focal infections or something else.

DR. MOOK said he agreed with everything that Dr. Chipman had said. A number of gentlemen mentioned herpes zoster as a result of focal infection. He thought every one had seen the herpetic reaction that occurred following the use of salvarsan. The skin reaction had a good deal to do with many of these phenomena as well as focal infection.

DR. RAVITCH said that in his paper last year on focal infection he called attention to the fact that not infrequently skin reactions were due to focal infection, particularly herpes zoster. He examined every case for the possibility of some skin reaction due to focal infection, and the more he studied the cases the more he was convinced that focal infections were not responsible for all the skin reactions we saw.

There was one point he would like to call attention to in connection with alopecia areata, and it was this: in over a dozen cases of alopecia areata he found half of them were due to defective sight, and after the defective vision was corrected the alopecia got well.

DR. HARTZELL said it ought not to be necessary to call attention to associated conditions which represented cause and effect. So common a condition as an abscessed tooth at one time or another was sure to be associated with all sorts of things, and it did not follow that because a man had eczema and, at the same time, had an abscessed root, that the one was the cause of the other. He would not be misunderstood as denying the fact that focal infections were frequently the cause of certain diseases of the skin, but he did think we should be cautious in pronouncing cases of skin diseases as due to

focal infection. He said he must confess, that he could hardly believe that herpes zoster was the result of focal infection to the extent that had been admitted here. Furthermore, there had been considerable talk about focal infection being the cause of simple herpes. An intimate friend of his, a distinguished teacher in the University of Pennsylvania in the college department, could produce at will a simple labial herpes if he ate cheese for dinner. You may call that a focal infection.

On the other hand, he recalled the case of a man he saw some three or four years ago, who began to present vague symptoms of ill health. He grew worse from month to month. He had, at times, pains in his chest and various other parts of the body, and as the good book says, he suffered many things from many diseases, all in vain. By good luck, he fell into the hands of a distinguished member of the dental profession who discovered he had an infected antrum. After the antrum was thoroughly drained his symptoms began to subside. The way he came into the case was, he had a very severe pustular eruption on the palms of both hands, small pustules not larger than a hemp seed, which gave him great distress. All of these symptoms slowly but certainly disappeared. When he saw him last he was a well man. Here we had a whole group of symptoms, some of them vague, some distressing, and along with them a pustular eruption of the palms of the hands, probably due to focal infection, but he was not willing to believe, as he had previously remarked, that every man who had an aching tooth was sure to have eczema, or that every man that had eczema was sure to have a mouth full of decayed teeth which was at the bottom of these cutaneous troubles.

Dr. Pusey said he would call attention to the fact that Dr. Chipman was suggesting lines of thought about focal infection causing skin disease, making very few positive statements, but he thought, as Dr. Chipman did; and as we were going over this matter his mind reverted to another connection, namely, the internal secretions were being invoked very much more enthusiastically, but no more rationally, as the universal cause of dermatoses. It seemed to him the real fact was, he was sure Dr. Chipman intimated no more, that these things were, at best, but steps in our progress of knowledge, but they did not represent, as many men seemed to think and believe, the final step in our knowledge of these questions.

Dr. Hazen said there was one phase of this subject that was not touched on for some reason, and it was this: He thought we all realized that certain skin diseases were associated with or were due to disturbances of the internal secretions. Furthermore, he thought we all recognized that certain disturbances of the internal secretions may be due to focal infections—not all, but certain ones. We have begun to realize that certain disturbances of the skin which follow, probably come from mouth infection. Certain diseases of the skin associated with nervous disorders known as vagatonia were due to focal infection.

Dr. Pollitzer said he did not think there could be any question as to the possibility of certain dermatoses being dependent on chemical changes brought about through the presence of infectious organisms in various limited localities of the system. What he rose to say especially was this: The method that was followed in the study of this subject was the statistical method. We took a certain number of cases of alopecia areata or of herpes zoster and had the patients examined carefully and note whether they had pus infections of the teeth or infection of the tonsils, and put that down. Then we find, perhaps, a considerable percentage of cases with alopecia areata or herpes zoster have had some kind of focal infection. If that proportion was a large one, as the reader of the paper said, the thing became very significant. If we are going to use the statistical method simply, we should use it completely if we were going to depend on it. We should get the statistics of some infections in people who had not been affected by alopecia areata. You take 100 cases of alopecia areata and find in 62 of them there were bad teeth, and 12 had infected

tonsils. That meant nothing because, in the first place, the practical association between that kind of thing and a small patch on the scalp from which hair was falling, was rather remote. He could not see any possible connection. We must be reasonable, we must be logical, in making these deductions. If, on the other hand, we took 100 cases of alopecia areata and found that 100 of them had focal infections of the teeth, or if we took 100 cases of scabies and found in 72 of these people there was present infection of the teeth, the whole argument fell to pieces. That was what he meant by following the statistical method logically, and he thought it should be done before we depended on any conclusions that were drawn on the basis of present-day knowledge.

DR. MCEWEN said that there ought to be a distinction made between foci that were working under pressure and foci that were draining. As he understood, internists did not attribute generalized disease to foci which were draining to any extent. Unless foci drained, you may have complicated chemical changes taking place, but every focal infection may not be under pressure.

DR. CHIPMAN said he coincided with the remarks made by Dr. Pollitzer, and he believed he expressed that idea in the paper, namely, if statistics were to be of any value we must check them up with controls. In other words, we have taken only fifty cases at random and have run them down. He was not trying to prove that cutaneous affections were due to focal infection, but spoke rather as a protest against the doctrine of *laisser faire*. We had a number of diseases whose etiology was unknown. What were we going to do—were we going to throw up our hands, or should we investigate the possible cause or causes and run them down so far as we were able to do so?

Dr. Zeisler spoke of herpes zoster, and it seemed to be the central point in this discussion. His idea of zoster was that it was due to nerve irritation, and may be chemical as well as toxic.

The speaker mentioned the substance known as phylacogen, which was originated in California. It was very crude and empirical. In one special case of lupus vulgaris, which was a sort of forlorn hope, he was induced to inject some of this agent into the patient, and within a day or two there appeared a herpes zoster as typical as any one could wish to see, so that he felt perfectly clear in this case as to the etiology, not perhaps as a specific cause of zoster but in general.

In regard to some other dermatoses, he fully anticipated in reading this paper that we should have reference made, to the swinging of the pendulum too far. He expected that, and he guarded against it with all the reservation of which he was capable, stating as precisely as possible that nothing definite was claimed. He presented a few cases which were run down, and he knew they would have been more valuable if we had controls, and that as they stood they were merely suggestive.

He was sorry he did not say more about acne because it was in line with one of the thoughts he tried to emphasize, namely, the effect of interference with the focus of infection. He regretted that no one spoke of that in the discussion. That was one of the suggestive points. If we had a tonsil taken out completely, the patient may get well, but if we only partially removed the tonsil by the old method, that patient could have a reinfection of the remaining stump. Again, if we burrowed into a dental abscess and stirred things up, opening the blood vessels and lymphatics, that patient was likely to have an exacerbation, and following that, an exacerbation of the cutaneous disease, and subsequently there may be improvement in the condition. It seemed to him that was very suggestive of an etiological connection.

The speaker wanted to make this point absolutely clear, that here was a survey of cases, not a large number, and nothing positive was claimed. He did not want to convey the impression that he thought every cutaneous manifestation was due to diseased teeth or diseased tonsils, and that we should let the matter go at that. There were other hidden foci. In doubtful cases

we should investigate the sinuses, the appendix, the seminal vesicles, and, by the way, the last was a very common source of infection.

Dr. MacKee cautioned us in regard to the findings of the radiographer. The speaker had been confronted with that, with relation to the teeth and other things. He recalled a case of herpes progenitalis in a young chap who had a history of repeated attacks of choroiditis. He was seen by three practitioners, one of whom made a perfunctory examination and said everything was all right. The roentgenogram was negative; there was nothing apparent as far as could be discerned. His clinical condition, however, was so suggestive that he was sent to another radiographer, and the roentgenogram revealed an abscess of the antrum. The first radiographer did not take a picture from the right angle, showing that if we made a perfunctory examination and were satisfied with one roentgenogram, we may not be able to locate the focus of infection, whereas, if we got at the case and made a thorough examination, we will doubtless find the source of infection.

GLYCERIN

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The clear, oily, trivalent alcohol, glycerin, is rarely employed alone as a medicament. In association, however, with other materials it has a large number of uses.

It is freely miscible in all proportions with water and with ordinary alcohol, it mixes well with all the ointment bases, and is an excellent solvent.

Glycerin is hydroscopic and attracts water from the air. This property is taken advantage of in the application of external remedies, as through this quality and by its oiliness the skin is kept moist, and the associated medicament is held applied to the skin. If, for instance, it is desired to prescribe a parasiticide as a lotion and to keep it applied steadily to the skin, one cannot do so either with water or with alcohol alone, as these quickly evaporate and leave the powder on the surface, from which it readily falls. Such a preparation would lack intimate application and durable action. For example, in prescribing mercuric chlorid in this way for tinea versicolor the effect would be almost inappreciable. By adding glycerin, however, the skin is kept moist and the medicament is retained. Such a prescription would be:

℞ Hydrarg. bichlorid..... gr. viii
Glycerin..... ℥ ss
Spts. vini rect. dil.....ad ℥ viii
M. Sig.: Rub well in, once a day.

At times glycerin is added to a lotion to give it body and a slight unctuousness without being greasy. Many of the popular toilet lotions owe their popularity in good part to the contained glycerin. One of the best lotions for roughness of the hands, as in chronic eczema, is composed of caustic potash (KOH), glycerin, alcohol and water:

℞ Kali caustic..... 1.00
Glycerin .....
Spts. vini rect.....āā 66.00
Aq. ros.....ad 200.00
M. Sig.: Use on the hands once a day.

Alcohol has long been recognized as an excellent dressing for suppurating lesions, long before its antiseptic qualities were approciated. Straight alcohol acts too irritatingly and in the older days it was employed as wines. Now-a-days, instead of wine, we use dilute alcohol,

which means that it is combined with equal parts of water. This is quite strong enough as an antiseptic, and, as far as the skin is concerned, has the admirable quality of cutting the cutaneous fat, which so often protects the microörganisms from the other antiseptics. Instead of using water as a diluent, glycerin may be employed, and Jessner, for instance, advises the use of what he calls alcohol-glycerin (3:1) as a dressing for furuncles. This makes a smooth fluid of high antiseptic value, and the hygroscopic nature of the glycerin exerts a definite pull on the secretions in the furuncle.

The behavior of glycerin to starch is interesting. If these two substances are boiled together they form a smooth, translucent paste called a glycerol, which was at one time much employed as a base for topical applications in place of the fatty bases. Glycerol, however, is sticky and because of being hygroscopic, it is wet and cold. There is one kind of skin, however, on which it answers admirably, the ichthyotic. Years ago I ran across a recommendation by Laillier for its use in this condition, and it has been an almost constant source of satisfaction. The prescription runs:

℞ Amyli 30.00
Glycerin 300.00

Cook together in a porcelain dish and, just as the mixture jellies, add:

Aq. lauro. cerasi..... 15.00
M. Sig.: Apply to the roughened skin.

To the above may be added salicylic acid or resorcin, or liquor carbonis detergens, to meet any indication that may be present.

The mode of applying this Laillier's paste is not indifferent. If it is rubbed on in large quantity it makes the skin gummy and wet. The correct way is to touch the tips of the fingers on the jelly and to pass the moistened tips over the affected skin so that only a light film is spread over the surface. This keeps the skin sufficiently moist and soft, and does not waste the preparation.

Pastes made with glycerin are important.

Pastes, like ointments, are mixtures of powders with fats, but with the notable difference that a greater quantity of the powder is present. In a paste, as a general rule, the powder or powders equal in amount the fatty medium. These pastes are usually lighter and they are more porous and more absorbable than ointments, and therefore act better than ointments on a hot or an exudating surface. Vaselin is the fatty base usually prescribed in ordering a paste, but glycerin may be employed. Such a prescription would be:

℞ Amyli .....
Zinci ox.....āā 15.00
Glycerin 30.00
M. Sig.: Apply by spreading on with the hand.

The above makes a white preparation of the consistency of white paint. It forms a pliable, adherent, white layer that is neither greasy nor dirty. It protects the surface from injury and holds the papules of a papular eruption as in a splint, and at the same time it allows the free egress of any discharges, and it does not interfere with the natural secretions of the skin. In making this preparation the druggist should be warned not to boil the glycerin and starch together, as is the case in making glycerol. If so boiled a crumbly mass is formed, quite without adhesive qualities.

The zinc oxid glycerin jellies form another set of preparations that, when judiciusly employed, give excellent service. A formula that I have found excellent consists of:

℞	Gelatin	46.00
	Zinc oxid	28.00
	Glycerin	12.00
	Aq. ad	114.00

Heat the water and dissolve the gelatin in it, and then add the glycerin and the oxid of zinc and stir until cold.

This makes 200 gm., a little over six ounces, which is a convenient amount to dress a surface equal to that of both legs.

THE RELATION OF FRUIT INGESTION TO CUTANEOUS DISEASES

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The biblical story of Eve and the fruit, like most primitive tales, has in oral tradition been associated with the fruit of one special tree, thus leaving a wide margin for diversity of opinion as to the special tree meant. Looked at in its broader aspect so as to include the majority of fresh fruits, and the curse still holds good.

I think it may be taken as a truism, that if all fresh fruits were stricken from the dietary, one third of the sickness incidental to childhood and early life would be eliminated. I do not mean to imply that all fresh fruits are bad, but so many of them are unwholesome in the raw state that the statement holds good nevertheless. Paeans and pages have been written in praise of fruit, and volumes of the same in praise of liquor, and the one eulogy is as near the truth as the other.

Dr. Boteler, speaking of the strawberry said: "Doubtless God could have made a better berry, but doubtless God never did." Obviously the good doctor had not suffered from the hives, and being human as we are, he generalized from his own experience and probably treated the public accordingly.

Linnæus was a martyr to the gout and cured himself by the liberal use of strawberries; the virtue of the remedy was ascribed to the potash in the fruit exerting an alkalinizing and diuretic effect. Later, when the presence of salicylic acid was demonstrated in the fruit, part of the value was considered due to that, but the quantity seems too small to have had any influence. Perhaps the combined chemical ingredients had some value but we, nowadays, who consider gout as a disease of metabolism, are more disposed to credit the cure to the substitution of the strawberry for the meat.

Fruit cures, like the present grape cure craze, are in reality simply starvation cures and are only of value to the idle rich, the overfed, or the underexercised. The bath cures of continental Europe are fashionable methods of starvation, supplemented by mild eliminatory remedies. The popularity of the German and Austrian spas would rapidly fade if beer and over-indulgence were avoided. They are absolutely useless to any individual with a waist line under 35 inches.

Of all our California fruits the orange is the most deleterious. The strawberry outranks it as a cause of urticaria but the orange is

more prone to cause the furred tongue, cloyed appetite and general depression, a symptom group that in our present state of knowledge is classed as biliousness. Now, it is reasonable to assume that any fruit that is liable to cause urticaria contains in itself some element that may at any time prove unwholesome. With many people urticaria frequently follows the ingestion of fresh fruit. This disease as well as many of the eczemas of childhood are in reality but the expression of the anaphylaxis produced by the protein in the fruit. Why the small amount of protein in these fruits should cause anaphylaxis when a beefsteak does not, naturally suggests that the protein in the fruit is in a different chemical form, or, as is more probable, the protein when liberated from the cellular structures carries with it some ingredient from the cellulose that in some manner modifies its action. Be that as it may, the evil lies wholly in the pulp or cellulose, the juice is perfectly wholesome. Another feature of this cellulose protein poison is its liability to cause convulsions in children. It is not at all uncommon to be hurriedly called to see a child in convulsions who a few hours before had swallowed a few liths of an orange. The old theory that the convulsions in these cases were wholly due to simple intestinal irritation will not bear scrutiny, as inert bodies of equal bulk and consistency do not usually produce any untoward results. In these cases the convulsions are the result of protein poisoning and are probably a phase of anaphylaxis. Probably all convulsions in children not typically epileptic are due to the same cause.

Oranges exhibit their poisonous qualities most intensely when eaten fresh off the tree. When cold stored for a few weeks they lose these poisonous qualities and may then be eaten with impunity.

Cooking, so far as I have observed, renders innocuous the proteid elements in all fruits and most vegetables. Among the latter the Mexican or so-called Boston bean is an exception. It is a matter of ancient observation that the use of grain mixed with the seeds of certain peas (Lathyrus) may give rise to a form of paresis known as lathyrism. I have seen no reference to such effect following the use of the common bean unless the "un poca" and "mañana" habit of our neighbors be considered as incipient symptoms. I have on various occasions attended Mexicans for what seemed to have been typical epileptic convulsions that followed a feast of the ordinary fried beans. These attacks I have considered due to protein poisoning, as ordinary food, even in excess, rarely induces convulsions in the adult.

Glucose, a common commercial product, is destined to be classed among the undesirable foods or luxuries. This substance is largely used by confectioners for stiffening purposes in the manufacture of the so-called chocolate creams, and to this glucose are to be attributed

the digestive disturbances that follow their use. Chocolate and sugar in themselves are digestible enough, so the chocolate and sugar are certainly not at fault.

To return to the fruits: the skin is the mirror that reflects, on the human metabolism, the ultimate influence of the food, and judged from that standpoint, among the small fruits the strawberry is the chief and practically the sole offender. The raspberry rarely gives trouble, the blackberry not at all. Of the larger fruits the orange has already been criticized, next in order of unwholesomeness come the peach, apricot, plum and cherry. Pears, apples, grape-fruit and grapes seem to produce no anaphylactic symptoms.

The skin reactions that follow the use of nuts vary in proportion to what is popularly called their richness, walnuts being the chief offenders, pecans less so, almonds scarcely at all and filberts not at all.

Dried fruits such as dates, figs and raisins are valuable foods and have apparently no direct action on the skin. Figs are the only dried fruit that have a noticeable laxative action. In mild cases of constipation two or three figs eaten before retiring produce satisfactory results. The imported fig alone has this quality; our California figs, including the fertile seeded varieties, do not seem to have this virtue. Our raisins, if freely eaten, may cause an irritative diarrhea and in an unusual way; the skins are somewhat tough and difficult to digest and are prone to adhere by their flattened surfaces to the valvæ conniventes, where they may remain for some time before irritation is produced. In one well authenticated case that came under my care, diarrhea followed three weeks after the raisins had been eaten. The stools contained numerous shreds of raisin cuticle, apparently quite unaffected by their long sojourn in the bowel. The musk melon or canteloupe is apparently harmless, but I do not feel quite sure about the watermelon. The latter has the disagreeable habit of occasionally producing an almost choleraic diarrhea. The melons belong to a family of plants that in their wild state are drastic purgatives and in the instances where they disagree, they may have possibly reverted to the family habit.

Many people eat all manner of fruit not only with impunity but with pleasure and benefit, as it gives them that feeling of repletion that is essential to mental well being and prevents the excessive use of the ordinary proteids.

There is a class of people who have digestions akin to those of the herbivora, who can eat, satisfactorily digest and assimilate all manner of fruits and vegetables, and examination of the stools show that the digestion of the cellular elements is complete. These people have one distinguishing feature, they all show a tendency to constipation and

high blood pressure. In practice, then, we may lightly regard the possibility of anaphylaxis in these people. On the other hand, in those who suffer from catarrhal affections of the large bowel (and these affections are very numerous, ranging from mild catarrhal inflammation to membranous colitis) the anaphylactic action of fruits is liable to be very marked. There is, too, the possibility that the frequent association of anaphylaxis and colitis may be due to the parenteric action of the colon bacillus gaining access to the blood through the damaged points in the mucous lining.

LYMPHADENOSIS CUTIS UNIVERSALIS, ASSOCIATED WITH GENERALIZED ERYTHRODERMIA AND ATROPHY OF THE SKIN*

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Sweitzer[1] reported a rare example of the aleukemic type of leukemia cutis and submited a brief review of the literature. Arndt,[2] of Berlin, in a rather brief yet comprehensive paper, deals with an only partly explored field in the domain of dermatology and in its broad scope embraces a discussion of some of the following conditions: the so-called lymphadenids or leukemids of the skin, the various types of cutaneous lymphadenoses, the integumentary manifestations of leukemia and pseudo-leukemia (lymphogranulomatosis, Hodgkin's disease), the different forms of universal exfoliating erythrodermias, their relations to lymphodermia perniciosa, pityriasis rubra, mycosis fungoides and other dermatoses. Lack of space prohibits anything more than a brief citation of some of the work on these topics which appears in the literature. Arndt contributed two other papers, one in 1911 and another in 1912, and those who desire to study the subject will find in these monographs much valuable information, together with a comprehensive bibliography.

Examples of universal cutaneous lymphadenosis are extremely rare. Arndt refers to four cases and Sweitzer's case is the fifth on record of its kind. In this country, comparatively little work has been done in connection with the cutaneous complications of diseases of lymphatic origin. Instructive papers bearing on the subject have been published by Hazen, Winfield, Bowen, Pardee and Zeit, and others. Closely related dermatoses, such as the premycosic erythrodermias, dermatitis exfoliativa, pityriasis rubra, etc., not infrequently form the subject of reports or of case demonstrations before dermatologic societies. In the discussion following the reading of Arndt's paper, Fordyce stated that he had had under his care two cases of universal lymphadenosis, similar

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* From the Department of Dermatology and Syphilology, Vanderbilt Clinic, College of Physicians and Surgeons, Columbia University.
* Read before the American Medical Association, Section in Dermatology, New York City, June, 1917.

1. Sweitzer, S. E.: Leukemia Cutis, with Report of a Case. Jour. Am. Med. Assn., Nov. 18, 1916, p. 1510.

2. Arndt, G.: Diseases and New Growths of Lymphatic Origin, Jour. Am. Med. Assn., Oct. 10, 1914, p. 1268.

to those described by Arndt. Pollitzer expressed the opinion that cases of this kind are probably not as rare as the scant literature would seem to indicate.

NOMENCLATURE

A modification of the nomenclature of the lymphadenotic affections, as Arndt suggests, possibly permits of a better conception of the subject as a whole. To use his own words:

> Concerning the nomenclature I think the old names, lymphatic and myeloid leukemia should be replaced by aleukemic, subleukemic and leukemic lymphadenosis and myelosis. The essential pathologic feature of lymphadenosis is the generalized hyperplasia of the lymphatic hematopoietic tissue and the essential feature of the myelosis is a generalized hyperplasia of the myeloid tissue. According to the blood changes, which represent only a symptom, although a very important one—we distinguish, in speaking of lymphadenosis, an aleukemic form, if the blood is normal, a subleukemic form if the number of the white blood cells is normal or very little increased, but the proportion of lymphocytes is augmented, and a leukemic form when there is an absolute, permanent, progressive increase of lymphocytes and the total number of leukocytes is augmented.

TWO CLINICAL VARIETIES

Lymphadenosis of the skin occurs in two forms: the diffuse or universal and the circumscribed. They represent two different clinical types, which (according to Arndt) do not merge into each other. Both forms may be associated with the different blood pictures designated as leukemic, subleukemic and aleukemic. The circumscribed form is far more common than the diffuse or universal. In the myeloid variety of the disease, the diffuse form has not been encountered, but cases of the circumscribed form have been reported by Hindenburg and by Bruusgaard. More recently, Hirschfeld reported a case of aleukemic myeloid leukemia and incidentally mentions the fact that cases of aleukemic lymphatic leukemia are not as rare as was formerly thought.

The subject of this report is an example of the aleukemic type of universal cutaneous lymphadenosis. It is peculiar in the fact that the patient's skin exhibits the diffuse and the circumscribed varieties of the disease, together. Furthermore, the case is unique in that there exists a generalized, almost universal atrophodermia, associated with areas of deep, reticulated pigment deposits in the skin and glands; and in the occurrence of large and small infiltrations, nodules and tumors and of ulcerated areas of skin. The patient had been presented before various dermatologic societies on numerous occasions and the accompanying photographs will no doubt recall him to the minds of many dermatologists throughout the country. He has been more or less constantly under our observation during the past three and one-half years, during which period we have had ample opportunity to closely observe the progress of his malady, to note the blood changes (strictly speaking, rather the absence of blood changes), to study sections from

the skin and glands and to carry out the various laboratory tests, guinea-pig inoculations, etc. For the laboratory material obtained during the patient's stay at the City Hospital, we are indebted to Drs. Fordyce and Larkin; and to Drs. Goldenberg and Leviseur we extend our thanks for biopsy material and clinical data obtained while the patient was under their care at the Mount Sinai Hospital.

Many eminent dermatologists have had occasion to examine our patient and several unhesitatingly pronounced the cutaneous picture which he exhibited to be unique in their experience. It is not to be wondered at, therefore, that the case has given rise to a considerable amount of controversial discussion, especially with respect to its diagnostic features. Originally presented before the Section on Dermatology of the New York Academy of Medicine as an example of pityriasis rubra pilaris, the dermatosis has been diagnosticated by some as pityriasis rubra of Hebra, by others as mycosis fungoides, leukemia and pseudoleukemia cutis, lymphodermia perniciosa, idiopathic atrophy of the skin, etc. On the occasion of his recent visit to America, Arndt examined the patient, and though he did not venture a definite opinion, he suggested that microscopic study of some of the enlarged glands might prove to be a step toward the identification of the malady and might cast some light on its pathogenesis. Microscopic study of numerous sections from the skin and glands, together with investigations directed toward possible alterations in the blood pictures, led us to the conclusion that we were dealing with an example of lymphadenosis, associated with universal erythrodermia, generalized atrophodermia, disseminated pigmentation, tumor formation and ulceration.

REPORT OF CASE

The patient was presented by Dr. Lapowski before the Dermatological Section of the New York Academy of Medicine, in October, 1913, under the title, "pityriasis rubra pilaris." This diagnosis was questioned by several members of the section, as the following quotation of the case report,[3] together with the ensuing discussion, will show:

"PITYRIASIS RUBRA PILARIS. Presented by Dr. Lapowski.

"Mr. J., aged 40 years. Occupation, bricklayer. The disease appeared eight years ago, and was universal. Family history. One sister and one brother died of 'lung' diseases. The patient was married eighteen years. There was no history of tuberculosis either in the patient or in his three living children. The disease started on the flexor surfaces of the arms, with severe itching, and red spots appeared on the breast and elbows, gradually spreading over the whole body, and since that time the redness and itching were always present. Two years ago he began to lose his hair. The general health was unimpaired.

"He came to the dispensary October, 1912, with erythematous, slightly infiltrated patches, consisting of papules, some conical, with white, very adherent scales, and some flat papules arranged in rings, localized on the breast, abdomen and flexor surfaces of the arms. The rest of the skin was red, dry, with

3. The Jour. Cutan. Dis., May, 1914, p. 398.

minute scales. The nails showed between the bed and the body of the nail, keratosis, and were raised and striated. The palms and soles were hard, cracked, infiltrated, with fine scales. The face was red, drawn, slightly scaly. There was ectropion of the left eye. The lower lip showed whitish lines and rings.

"He was treated with subcutaneous injections and lubricants, resulting in a pronounced improvement, showing itself in pliability and softness in those parts of the skin which before treatment were hard, cracked and infiltrated.

"DR. WALLHAUSER said he was inclined to regard this as a case of pityriasis rubra of Hebra, as it lacked the papular condition seen in pityriasis rubra pilaris; furthermore, the atrophic features of the Hebra type, ectropion, etc., were present in this case to a marked degree.

"DR. HOWARD FOX said that he could see no evidence of pityriasis rubra pilaris and thought Dr. Wallhauser's suggestion of pityriasis rubra of Hebra should be seriously considered.

DR. POLLITZER said that the patient presented some symptoms of pityriasis rubra pilaris notably on the forearms, but the atrophic patch on the trunk was not a lesion of that disease and the skin showed no development of horny plugs. The atrophy and the ectropion suggested the pityriasis rubra of Hebra, while the long duration, eight years, was not common in that disease. He would make no positive diagnosis without opportunity of further observation."

The patient, despite the improvement in his condition, soon discontinued his visits to the Good Samaritan Dispensary and subsequently fell into the hands of three or four practitioners residing in his neighborhood, one of whom finally referred him to my service in the Beth Israel Hospital Clinic.

During the interim, his skin had been undergoing progressive changes. The entire integument, excepting the palms, soles and the skin of the genitals, now presented a striking picture of advanced atrophy. On the scalp, face and legs the skin was tense, glistening and appeared as though it had been stretched over the tissues below it. On the trunk and upper extremities, the skin was wrinkled, flaccid, soft to the touch and somewhat redundant in appearance, a condition designated by Jadassohn as anetodermia. The face was of a deep, bluish-red color, while the rest of the body presented a decided bronze-red tint. The forehead and upper lip, as well as the frontal portion of the scalp, exhibited swellings which were boggy and edematous, pitting on pressure. The skin of the chest, back and abdomen, beside the diffuse bronze-red pigmentation, showed also a disseminated, dark-brown, reticulated and irregularly distributed pigmentary deposit, similar to that occurring in a chronic radiodermatitis. Scaling was so meager as to be scarcely noticeable. On the legs there were a few small ulcerations and infected scratch lesions. The scalp and bearded regions were almost entirely denuded of hair. Eyebrows and eyelashes were gone. The nails were unchanged. There was a moderate, general adenopathy. With the exception of mild pruritus, the patient felt well.

A definite diagnosis having not as yet been decided on, the opportunity was taken to present the patient before the New York Dermatological Society, at the March, 1914, meeting. The record of the presentation, together with the interesting discussion to which it gave rise, follows:[4]

"PITYRIASIS RUBRA PILARIS (?). Presented by DR. WISE, March, 1914.

"The patient, Jacob J., was a man aged 40 years, born in Russia. He was married twenty years ago and was the father of nine children, three of whom were living and in good health. He was a bricklayer by occupation. In October, 1913, he was presented before the Dermatological Section of the New York Academy of Medicine by Dr. Lapowski, as a case of pityriasis rubra pilaris, and considerable discussion arose regarding this diagnosis. The disease began about seven years ago on the chest and the flexor surfaces of the arms, in the shape of red patches and scaly spots. There was much pruritus at that time.

4. THE JOUR. CUTAN. DIS., October, 1914, 32, No. 10.

On the scalp, the scales appeared about two years ago and the alopecia followed soon thereafter. Since the beginning of this disease, there had been a gradual spread of the erythematous and scaly patches until there was a universal involvement of the integument. While under Dr. Lapowski's care he received 30 intragluteal injections, presumably of arsenic. The patient presented for examination a thin, glistening, dusky-red, wrinkled and atrophic skin, the process involving the entire integument with the exception of the palms and soles, which were thickened and horny. On the backs of the fingers and hands, there were present a large number of comedo-like follicular plugs. The face was red, tense and glistening in appearance; there were areas of alopecia of the beard and there was total loss of eyelashes; ectropion was marked. About two-thirds of the scalp was entirely denuded of hair; the scalp was tensely drawn over the cranium and was atrophic. On the legs there were several ulcerated areas, following traumatisms from scratching, etc. The patient complained of pruritus and of feeling cold. The nails showed no changes. The Wassermann reaction was negative.

Discussion

"Dr. Sherwell inclined to the diagnosis of pityriasis rubra.

"Dr. Whitehouse said that he had seen but two cases of true pityriasis rubra of Hebra, one of them being a case that had been under Dr. Jackson's care some years ago. Both cases died after pursuing the usual course of pityriasis rubra; the exfoliation was in large flakes, with the shedding of the nails and hair, lasting many years before death ensued from pulmonary tuberculosis, kidney disease, or the usual termination of septic absorption. The picture of pityriasis rubra was well fixed in his mind, and he had not seen anything like it since, whereas this case was very much like pityriasis rubra pilaris. The lesions on the hands and fingers were characteristic of pityriasis rubra pilaris, whereas in pityriasis rubra of Hebra there was not the tylosis of the palms, as in this case and as in all cases of Dévèrgie's disease; besides, the general exfoliation was entirely different. Instead of the soft flakes, as in pityriasis rubra, this was a dry, squamous shedding of the epidermis. The scalp and nails seemed characteristic enough of Dévèrgie's disease, and the atrophy was not uncommon in some of these cases. It was rather unusual, however, for atrophy to develop after only seven years. It would certainly seem to be a case of pityriasis rubra pilaris and not pityriasis rubra of Hebra.

"Dr. Fordyce agreed with the diagnosis which Dr. Whitehouse had made and said that Dr. Whitehouse had presented very clearly the differential points between pityriasis rubra of Hebra and pityriasis rubra pilaris. The keratosis of the palms which this patient presented was very frequently met with in pityriasis rubra pilaris. The follicular involvement of the dorsal surface of the phalanges and over the wrist, in his own opinion, were absolutely typical of pityriasis rubra pilaris.

"Dr. Wise said that he would have histological and serological examinations made and would report to the Society on the case at a later date."

In the Fall of 1914 the patient, together with microscopic sections from the skin of his back, was again presented before the New York Dermatological Society.[5] An invitation to this meeting was extended to Professor Arndt, so that we availed ourselves of the opportunity of hearing his opinion of the case.

"PITYRIASIS RUBRA OF HEBRA (?). Presented by Dr. Wise, Oct. 27, 1914.

"The patient (originally presented before another society by Dr. Lapowski) had been presented at a previous meeting with a tentative diagnosis of pityriasis rubra of Hebra, and at the request of one of the members he was brought again

5. The Jour. Cutan. Dis., April, 1915, 33, No. 4.

for further study. A biopsy had been made and a section therefrom was presented for observation. The history of the case had been published in full in a recent number of THE JOURNAL. The Wassermann test was negative, the von Pirquet negative. The blood and urine were normal. The atrophy of the skin was almost universal. There was also a very general adenitis. (A complete study of this case was under way, and the results would be reported at a future date.)

DISCUSSION

"DR. ARNDT (on invitation) said that it was very difficult to discuss the case. All that one could say was that there was a chronic inflammation of the skin terminating in a very marked atrophy. The latter symptom dominated the clinical picture.

"As to the different diagnoses suggested, pityriasis rubra pilaris, lichen ruber acuminatus, pityriasis rubra of Hebra, he could not agree with any of them. In lichen ruber acuminatus the primary lesions were perifollicular. There was no marked follicular localization in this case. In the lichen ruber acuminatus there would not be these peculiar ill-defined, deep-seated, soft infiltrations of the skin, as were seen on the forehead of this patient. The course would be different. Either the lichen ruber acuminatus became universal within a year or so, or it retrogressed in parts and recurred in others. There had been no retrogression at all in any part of the body of this patient since the beginning of the disease, seven years ago.

In pityriasis rubra pilaris, the primary lesions were likewise follicular. There were no deep, patchy infiltrations. There would be much more scaliness about the face and scalp.

"As to the diagnosis of pityriasis rubra of Hebra: it was very difficult to reach an agreement concerning that name. At the present time we were rarely inclined to make this diagnosis. The pityriasis rubra of Hebra was a universal, chronic reddening and exfoliation of the skin, ending in atrophy. These symptoms were rather vague and we saw the same changes in different processes, such as the lymphatic leukemic and the tuberculous erythrodermias. The latter was a rare form of tuberculosis of the skin first described by Bruusgaard, which was a generalized exfoliative erythrodermia coexisting with tuberculosis of the inner organs and showing the typical tuberculous changes in the skin. Then we knew the dermatite éxfoliatrice généralisée subaigue described by Wilson and Brocq. The course of this latter condition was subacute and did not last longer than about six or seven months. Admitting the possibility of this case being a so-called pityriasis rubra Hebra, there ought to be a universal spreading and generalizing after seven years' duration.

"The speaker said he would like to make two suggestions concerning this case. One might think of the possibility of a mycosis fungoides, although the marked scarlike atrophy of the skin and the lack of any retrogression were against it. But as far as the clinical picture was concerned, the deep, ill-defined, edematous infiltration of the skin of the forehead and the histological picture of the presence of irregularly scattered giant cells, different from the Langhans type, and recalling those seen in mycosis fungoides, were suggestive to a certain degree. Of course, these giant cells were not exclusively found in the latter disease, and did not enable us to be affirmative in the diagnosis.

"The other suggestion which he would have to make was the following: The most marked feature in this case was the atrophy of the skin, and it might be that we had to deal with a case of the so-called idiopathic atrophy of the skin. The chronic inflammatory infiltrations about the forehead would not be against the diagnosis. We knew that the atrophy in these cases was but a final stage. In acrodermatitis chronica atrophicans, of course, the localization was different. The fact that there had not been any remission at any time would be in favor of this diagnosis. This dermatitis atrophicans could be related to the ordinary forms of acrodermatitis chronica atrophicans or erythromelia (Pick), or might be different from the well-known clinical pictures. Very often we had to rely on the histological changes if the clinical

picture was not very clear; but in the case presented the microscopical changes showed us much more than we could learn from a pure clinical observation. There was chronic inflammatory infiltration of the upper third of the derma, with very marked atrophy of the epithelium. The cells composing the inflammatory new growth were lymphocytes, spindle-shaped cells, mast cells, pigment cells and some peculiar giant cells. Altogether these changes were not sufficient to make a positive diagnosis.

"Another feature in this case to which attention should be directed was the rather general involvement of the lymphatic glands. If it would be possible to take out any of these glands and make a histological diagnosis of the changes found in the lymph nodes, we might, perhaps, get a clearer idea of what the case really was, if there was any relation between the skin lesions and the general swelling of the lymph nodes.

"Dr. Arndt said that he had seen one case like this in Berlin, in which he hesitated for a very long time in making a diagnosis, even after careful histological study of an excised piece of tissue. In this case he finally decided on a dermatitis chronica atrophicans.

"Dr. Trimble did not think the clinical picture suggested lichen ruber acuminatus, and could not agree with such a diagnosis. The main reason for this opinion was that the disease was not follicular. Although he had seen only a few cases of pityriasis rubra, in these the redness was much brighter and more marked than in the patient just shown. In the case under discussion the color was quite dark—a brownish red. On the basis of his experience, he did not feel that he could agree with the diagnosis of pityriasis rubra of Hebra.

"Dr. Robinson said that the term lichen ruber acuminatus had been used, and he would like to explain what he understood by that term. We had not in forty years seen any cases of the lichen ruber acuminatus of Hebra, as described by him. All of these cases subsequently described under that term were now considered as pityriasis rubra pilaris (Dévèrgie).

"Dr. Robinson said that he had nothing to add to what had been said excepting to agree to a great extent with what had been said by Dr. Arndt. It was not the pityriasis rubra of Hebra. In the only case of this disease that he had seen for a number of years, the sections resembled it somewhat, but the condition mentioned had not the marked atrophic condition present in this case. No diagnosis should be attempted in this case without a microscopic examination. There was not much inflammatory process. It was not a pityriasis rubra, nor did it suggest any mycotic condition. He would regard it as a unique case, not to be included under the head of any well known disease. He was inclined to consider that some internal secretion was at fault, or that there was some trouble of the central nervous system. He had not seen any other case exactly like it in New York.

"Dr. Arndt said that up to about two years ago he had been of the same opinion as Dr. Robinson, that pityriasis rubra pilaris and lichen ruber acuminatus were the same. In most of the cases of that disease which had been described first by Dévèrgie as pityriasis rubra pilaire, the Viennese school would have made the diagnosis of lichen ruber acuminatus. Two years ago, he came across a case in which he hesitated to make the diagnosis of pityriasis rubra pilaris, although the lesions looked very much like it. The histological examination showed the typical changes of lichen planus. Therefore it was evident that this was a lichen ruber acuminatus and different from pityriasis rubra pilaris. There existed a variety of lichen planus that might be called lichen ruber acuminatus on account of its clinical picture, that differed rather from the lichen planus, in so far as *all the papules were peri-follicular,* there being no *flat papules* at all.* Histologically, these two forms did not show any difference whatever.

* The coexistence of follicular papules *besides* the flat ones in the ordinary forms was, of course, of frequent occurrence.

"DR. ROBINSON said that in lichen planus the sweat glands contributed to the umbilicated character. The corneous cells were compressed, as also the rete, on account of the presence of the excretory duct of the sweat glands. Apart from the few scales that were thrown out, this was the cause of the depressed center often observed. All of Wilson's cases had umbilicated lesions. We knew the cases of lichen ruber of Hebra ended fatally. For that and other reasons, he did not regard these two forms of eruption designated as lichen ruber planus and lichen ruber acuminatus of Hebra as being two forms of the same disease. He thought that view had been given up by all dermatologists.

"DR. ARNDT agreed with Dr. Robinson in giving up the old conception of lichen ruber acuminatus created by Hebra. The fatal issue in these cases may have been due to a generalizing of the process, the condition which the French called herpetides exfoliatrices malignes, a general chronic inflammation of the skin, not only occurring in the course of lichen planus, but also in eczema, psoriasis, etc. But setting apart the old clinical picture described by Hebra that was partially identical with Dévèrgie's disease, there was a lichen ruber acuminatus clinically differing from lichen planus, although probably a variety of this disease as shown by the very characteristic histological changes. It might be called a variety of lichen planus, but the clinical difference from the ordinary forms was so marked and striking that it was advisable to reserve for this form the old term of lichen ruber acuminatus.

"DR. HOWARD FOX said that it had been a great pleasure to hear Professor Arndt's opinion of this case, that had caused so much previous discussion. He was interested to hear Professor Arndt speak of lichen ruber acuminatus and pityriasis rubra pilaris as separate diseases. In his own opinion—which he thought was that of most American dermatologists—the two names represented the same condition. He did not think the case under discussion could be included in the disease described by either of these names, for the reason, as Professor Arndt had said, that the eruption had been almost universal for such a long time. In all the cases of pityriasis rubra pilaris that he had seen the eruption had eventually cleared up—in part, at least—after a number of months. An argument against the diagnosis of premycosis was the entire absence of itching.

"DR. KINGSBURY said that the case obviously called for continued study, and suggested that previous therapy might have had some bearing on the present clinical appearance. It might have been that some of the atrophy and pigmentation were due to arsenic and to Roentgen-ray treatment. It would be interesting to learn how much arsenic the patient had had. With reference to Hebra's fatal cases, it would seem probable that some of the deaths may have been due to arsenical poisoning, as he gave arsenic in enormous dosage.

DR. FORDYCE said that the case presented was, in his experience, a unique one and deserved much careful study. The histological examination of the lymph nodes might throw some light on the condition. Some years ago he had presented a very extensive case of annular lichen planus. The patient became cachectic and finally died with a persistence of the lichen lesions. A necropsy showed marked changes in the supra-renal bodies, which may have been responsible for the intense pigmentation of the skin and the fatal issue.

"DR. SHERWELL said that Hebra would undoubtedly have pronounced this case pityriasis rubra, as he laid great stress on the totality of the eruption. Another thing was that there had been such great advances in microscopic studies, that many differential problems were more or less intricate and interwoven one with another, with possible error. The general condition of this case, apart from the question of slight exudation or infiltration, would undoubtedly have led him to believe it pityriasis rubra. It seemed to him a classical instance of the condition which, under Hebra's guidance, he had learned to consider as pityriasis rubra.

"DR. ARNDT said that he did not wish to be misunderstood as to his conception of pityriasis rubra pilaris and lichen ruber acuminatus. They were different diseases, but there were cases clinically resembling pityriasis rubra

pilaris, though histologically they proved to be not pityriasis rubra pilaris but true lichen planus. As to the pityriasis rubra referred to by Dr. Sherwell, he could only say that the conception of pityriasis rubra in this country was very much larger than in Germany. In American literature many more cases of this disease were reported than in the German or French literature, and evidently here the old Hebra conception was still accepted.

"The possibility of this case being an unusual form of mycosis fungoides was not very great. The absence of itching would not prove so much as the fact that there had not been any retrogression. He had seen but one instance of a similar condition in Berlin, which he had studied for five or six years, without being able to reach a convincing conclusion.

Dr. Wise said that the man had never had any Roentgen-ray treatment, although the chest presented that appearance. He had taken arsenic, but only after these changes had already taken place."

The clinical changes taking place in the patient's skin have been sufficiently described in the foregoing accounts, which reflect the progress and advance of the disease as it appeared at various times, in the past three years.

In view of the fact that the morbid changes in the skin closely resembled those frequently encountered in patients afflicted with true leukemia, numerous blood counts were made; the results were always negative, however. During his stay at Mount Sinai Hospital, careful physical examinations and radiographs failed to reveal evidences of tuberculosis in any of the viscera. Tuberculosis was seriously considered as an etiologic factor, bearing in mind the similarity of the patient's lesions to those described by Bruusgaard, in his case of universal erythrodermia; in his patient, tubercle tissue could be found in almost any portion of the integument.

Numerous sections of the skin and glands of our patient were searched for tubercle bacilli, with negative results. Guinea-pig inoculations were carried out by Dr. E. J. Snyder, with material obtained from the deeper cervical glands and those from the groin, also with entirely negative results. The von Pirquet test was negative, as was also the complement fixation test for tuberculosis.

During the patient's attendance at the dermatologic department of the Vanderbilt Clinic, where he received Roentgen-ray treatments in the hands of Dr. Remer and his associates, we were enabled to perform the various laboratory tests and biopsies involved in this study.

The histopathologic changes in the skin and glands will be considered later.

SUBSEQUENT HISTORY

The patient entered the Montefiore Hospital on Oct. 21, 1916, in the service of Dr. Leviseur. For the following narrative I am indebted to the house physician, Dr. Sands, who was also kind enough to carry out the various laboratory tests mentioned below. Roentgen-ray plates of the skull were made by the radiographer of the hospital.

The patient, J. J., aged 43 years, married, was a native of Russia. The parents died at about the age of 60, from causes unknown to the patient. There is no history of diabetes, tuberculosis, syphilis, nervous disorders or skin diseases in the family.

Previous History.—He had scarlet fever in childhood. Venereal disease is denied. He was married at the age of 24; his wife and three children are living and in good health. Before the onset of the present trouble he was a heavy drinker, taking at least ten drinks of whisky daily. During the past two years he has indulged in occasional drinks. He uses tea and coffee in moderation. He never uses tobacco. Appetite has always been good. Bowels are regular.

Present Trouble.—The disease began about seven years ago, as a reddened, scaly patch on the lower part of the thorax and upper portion of the abdomen, on the left side. This patch itched considerably and scratching provoked a serous exudation. This area gradually increased in size and new foci of inflamed skin soon appeared on different parts of the body; these gradually became confluent, until the skin of the entire body was involved in the process.

Examination.—The patient is a medium sized, well developed man, presenting a universal skin disease. The entire integument is reddish in color, varying in different parts of the body, from a bright red to a bronze red. On the face the skin presents a distinct violaceous tint; the chest, back and abdomen exhibit a somewhat variegated color scheme, the tints ranging from yellowish to dark brown in some locations and to a bronze red and copper color in others. The skin of the extremities is of a dull red tint. On the trunk the skin has a mottled appearance, due to an extensive deposit of brown pigment, arranged in an irregular, somewhat reticulated pattern, resembling the end results of a chronic radiodermatitis. Larger and smaller patches of pigmentation are also seen on the scalp, face and extremities.

With the exception of the palms and soles and the skin of the genitals, the entire integument shows evidences of atrophy. On the scalp and legs the skin appears stretched tightly over the underlying tissues, giving it a somewhat glazed appearance; but over the rest of the body, the skin is wrinkled into fine folds, giving it the redundant appearance associated with anetodermia. The scalp, eyebrows, eyelids and axillae are denuded of hair. The nails are unchanged.

On various portions of the trunk and extremities there are more or less circumscribed, round and oval, scaly and crusted patches, from one to four or five inches in diameter, resembling chronic eczematous infiltrations. On the legs, over the shins and on the posterior surfaces, are several deep, indolent ulcers, with well defined margins and sloughing interiors. Similar ulcers are developing on the arms; these have resulted from the breaking down of nodular infiltrations. On the upper extremities, chest, back and thighs there are about a dozen boggy tumors and nodules, varying in size from a half to several inches in diameter, slightly raised, not well defined, their borders gradually merging with the surrounding skin. Some of these tumors are beginning to break down in the center, forming ulcers; others are involuting without evidences of disintegration or ulceration on the surface of the skin.

Marked adenopathy is present in the cervical, axillary, cubital and inguinal regions.

The mucosae of the mouth exhibit a slight brownish pigmentation. There is a well marked pyorrhea alveolaris. General physical examination is negative. Reflexes, sensation, mentality, etc., are normal. Blood pressure: systolic, 130; diastolic, 90. The Wassermann test is negative. The urine is free of abnormalities.

The patient's weight on admittance was 122½ pounds. During his stay of five months in the hospital he gained 14½ pounds. A radiogram of the skull revealed a normal sella turcica; the pineal body was not seen. Blood count: Red blood cells, 4,500,000; white blood cells, 10,000; small lymphocytes, 15 per cent.; large lymphocytes, 21 per cent.; polymorphonuclears, 60 per cent.; eosinophils, 2 per cent.; hemoglobin, 70 per cent. There were no abnormal red cells.

In November and December, 1916, several boggy tumors appeared on the back, arms and legs. Some of these broke down and were transformed into deep ulcers, with sharply raised, crateriform edges. The patient received

divided doses of Roentgen ray, resulting in involution of the tumor mases and healing of the ulcerations. Radiotherapy did not, however, prevent the appearance of fresh infiltrations and subsequent ulcerations. Some of the ulcers on the lower legs were due to scratching and subsequent infection with pus organisms.

RÉSUMÉ

A well nourished man, whose general health is fair and whose blood counts are normal, has had a progressive disease of the skin which began about ten years ago and has become universal; the disease is characterized by reddening, edema and tumefaction; the formation of moist, eczematous patches; the presence of nodules, tumefied masses and soft tumors, and of indolent ulcers; the occurrence of widespread pigmentation and an almost universal atrophy of the integument, accompanied by an almost complete alopecia of the scalp and face. There is also a marked adenopathy of the glands in the groins, neck and axillae. Subjectively there is moderate pruritus and pain in the ulcerated regions of the body.

HISTOPATHOLOGY

In the past three or four years, five bits of tissue were removed from various parts of the skin, for purposes of microscopic study. A small packet of glands was removed from the deep cervical region, a little over a year ago, by Dr. E. J. Snyder; and some glands from the groin were removed at the City Hospital, about two years ago, under the direction of the pathologist, Dr. Larkin, who was kind enough to examine sections from these glands and to submit a report of his findings. The areas from which the biopsies were made were chosen with regard to certain outstanding features of the dermatosis. One section was taken from a deeply pigmented spot on the chest; another from a thickened area of skin between the shoulder blades; another from an area presenting advanced atrophy and anetodermia; another from an eczematous, raised patch of skin in the lumbar region, overlying a tumefied, infiltrated mass of tissue—a boggy tumor covered by a friable, moist and inflamed integument, ready to break down and form an ulcer.

With the exception of the last biopsy, the various bits of tissue exhibited practically identical microscopic alterations, with the different modifications dependent on different clinical lesions from which the biopsies were taken. The changes in the glands of the neck and of the groin were also practically the same.

The sections were prepared and stained for me by Mr. Freeman, the technician to the laboratory of the dermatologic department, Vanderbilt Clinic. The lymph node from the groin was prepared in the laboratory of the City Hospital.

Skin from the Groin. Low Power. The corneous layer is hyperkeratotic and in some places laminated. The thickness of the epidermis as a whole varies greatly, ranging from four or six to fifteen or twenty

rows of cells. The atrophied regions are marked by a complete loss of pegs; the thickened places exhibit a well marked edema of the cellular elements, in some regions extending up into the stratum granulosum. Here and there infiltrating cells from the corium have invaded the epidermis. Directly beneath the epidermis there is a new-formed cellular growth, infiltrating the papillary portion of the derma. In the midst of the infiltrates are found spaces exhibiting considerable endothelial proliferation. The deeper layers of the derma present a fragmentation of the collagen, with pronounced sclerosis of the connective tissue surrounding the coil glands and hair follicles. The collagenous tissue about the deeper blood vessels also is sclerotic, the vessels themselves being for the most part dilated, and having thickened walls. The corium as a whole is greatly edematous.

High Power. The atrophied parts of the epidermis present a thickened stratum corneum, some of the cells still showing nuclei (parakeratosis). Some places are laminated. There is no distinct stratum lucidum, while the stratum granulosum is well defined; the intercellular spaces are indistinct and many of the nuclei are broken up. The prickle cell layer is from two to four layers in thickness, the cells are flattened, the nuclei staining poorly, the intercellular spaces as well as the prickles being poorly defined. Vacuolization is seen in some of the nuclei, with loss of contiguity of the epithelial cells. In the prickle cell layer some of the cells show granular degeneration. In the deeper layers of the epidermis are seen a number of darkly stained, migratory lymphatic cells.

In the hypertrophied parts of the skin, the corneous layer is the same as above described, except that it is much thicker; the stratum lucidum is absent, while the granular layer is more pronounced. The prickle cell layer varies from five to twenty cells in thickness, the intercellular spaces being well defined and the spines easily seen. Many of the cells exhibit intracellular edema with vacuolization, the nuclei being pushed to one side. The deeper portions of the prickle cell layer are more edematous, with evidences of granular degeneration, not seen in the more superficial layers. The basal cell layer is completely disintegrated.

Thickened and thinned areas of skin occur in the same field, so that there is great variation in the amount of infiltration in the papillary layer of the corium. More especially beneath the atrophied portions, the collagen is widely separated into fascicles, with spaces in between, containing numerous cells with large, granular nuclei and very little protoplasm (lymphocytes). There are also many eosinophil cells, while plasma and mast cells are few; a few small lymphocytic type cells, with a uniformly darkly stained nucleus, are also seen. The infiltration occupies the subpapillary portion of the corium, accom-

panying the blood vessels and coil glands into the deeper structures. Scattered through the infiltrate are numerous dilated, thin-walled blood vessels, together with many dilated lymph spaces.

In the atrophic places, there is a complete absence of follicles. Underneath the thinnest parts of the epidermis the infiltrate is greatly diminished, showing an increased fibrous tissue formation in certain regions. Beneath the hypertrophic portions of the epidermis, the edema is more pronounced than elsewhere, the interfascicular spaces are less prominent, the collagenous bundles occurring as fine strands, in the meshes of which are a few plasma cells, large cells with granular nuclei and a few small cells with darkly stained nuclei (eosinophils and mast cells).

The capillaries are increased in number and are filled with blood cells. Pigment granules, mostly intracellular, are scattered throughout the upper portion of the corium. In some areas the cellular infiltrate is much more dense than in others, very little of the collagen being visible. The cellular infiltrates extend down to the deeper vessels and coil glands, often replacing these structures. Hair follicles are few in number, the remaining ones being surrounded by cellular infiltrates; proliferation of the walls of the blood vessels and lymph spaces is well marked, more especially in those about the hair follicles.

Skin from the Back, Between the Shoulder Blades. Low Power. The corneous layer is thickened, in some places also laminated; the stratum lucidum is absent; the granular layer is from one to two layers of cells thick, the nuclei staining well. The prickle cell layer varies in thickness from two to eight cell layers, the nuclei being poorly defined in places where the skin is atrophic. There is marked intracellular vacuolization. The basal cell layer is in some areas intact, in others disintegrated. Increased fibrous tissue formation is seen in the corium, just beneath the epidermis, together with a disappearance of the papillae. Corresponding to areas in the epidermis where the atrophic process is not pronounced, the corium contains aggregations of small round cell infiltrates, in which are seen many small lymph spaces. Scattered throughout the fibrous tissue are numerous small blood vessels and lymph spaces, some of them lined with endothelial cells. Just beneath the epidermis the lymph spaces are enormously dilated; in some areas the epidermis is completely separated from the corium, resulting in variously shaped subepidermal vesicles. Numerous strands of dense connective tissue are seen extending down into the derma, some of them showing fibroblasts, possibly taking the place of the preexisting infiltration which had accompanied the deeper vessels.

Some of the blood vessels show dense, thickened walls with evidences of hyaline degeneration and marked contraction of the lumina. The few remaining coil glands show pronounced atrophy and are sur-

rounded by a dense connective tissue stroma. The collagenous tissue is dense, sclerotic and fragmented.

High Power. In addition to the changes already noted, the deeper layers of the epidermis present numerous pigment granules. The basal cell layer is for the most part destroyed. Where the epidermis is thinned, there is a dense connective tissue formation in the upper corium, in some places entirely devoid of cellular elements, other places showing a few spaces lined by endothelial cells; some plasma cells and lymphocytes also are found. Vesicle formation between epidermis and corium, the spaces being filled with fibrin, is a prominent feature of the sections. The epithelial cells forming the roof of the vesicles are degenerated and there is a pronounced edema of the surrounding tissues.

Scattered throughout the collagenous tissue, in some places more abundantly than in others, are infiltrates of embryonal cells of endothelial type; pigment deposits and chromatophores are numerous. The capillaries and small blood vessels have thickened walls; areas of dense connective tissue are seen deep down in the corium, together with lymphocytes and plasma cells scattered among them. The remaining coil glands are distinctly atrophied. Very little is left of the arrectores muscles, their remnants being atrophied.

Skin from Eczematous Patch on Lower Back. The corneous layer is well preserved, increased in thickness and intact throughout the section. Where it dips down into the few remaining hair follicles, it is markedly thickened. Lamination and parakeratosis are in some places prominent. There is only a faint indication of the stratum lucidum; the granular layer is for the most part two or three cell layers in thickness, but in the atrophic portions of the section, it is entirely lacking. The prickle cell layer varies greatly in thickness, represented by a few layers of cells in some regions; in others, by six to twenty layers (acanthosis). Many of the spinous cells are disintegrated, exhibiting marked edema, the prickles themselves staining poorly and many of the cells being devoid of nuclei. This intracellular and intercellular edema is especially pronounced in the deeper portions of the spinous layer, into which a few small lymphocytes have wandered. The rete contains many small lymph spaces, extending down to the corium, the basal cell layer being poorly defined and lacking the normal palisade cell arrangement; the remaining basal cells are distorted and widely separated, among them being numerous small wandering lymphocytes. The lymph spaces here are quite prominent, and mitotic figures are numerous.

In regions exhibiting more pronounced atrophy, the process of cornification begins deep down in the stratum spinosum, a few cells retaining their nuclei. The spinous layer is three or four cells in thickness, the cellular elements and intercellular spaces showing

advanced edema, the prickles being destroyed. Well defined microscopic vesicles, caused by separation of the rete cells, are seen extending up to the corneous layer. Some of the vesicles and lymph spaces present distinct lining membranes, enclosing fibrin deposits. Many new-formed blood vessels and dilated lymph vessels are seen lying between epidermis and corium.

The connective tissue of the corium is edematous, more especially in the vicinity of the vesicles; the collagenous bundles are separated by new-formed cells, some of which are arranged in columns, others in "nests." These cells consist of lymphocytes with dark, granular nuclei, eosinophils and many embryonal cells of endothelial type. The latter are scattered among the network of dilated lymph spaces and small capillaries. In some places the collagen shows evidence of granular degeneration, the infiltrating cells in these regions staining weakly. Deeper down in the corium, the collagen is not altered to such a great extent as in the pars papillaris, the bundles being less fragmented. Cellular infiltrates are scattered throughout the reticular layer of the corium, some of them accompanying the blood vessels, which exhibit marked endothelial proliferation. In some regions, the infiltrating cells have entirely displaced the collagenous structure.

Elastic Tissue. Just beneath the epidermis there is total loss of elastic fibers; a few fine threads are present in the lower portion of the pars papillaris; the pars reticularis also shows a diminution in elastin. In the blood vessels, the amount of elastic tissue appears to be normal, perhaps slightly reduced.

Summarizing the main histologic features of the sections removed from various parts of the body, we find varying grades of hypertrophy and atrophy of the epidermis; interstitial and parenchymatous edema throughout the skin; formation of subepidermal vesicles; vascular and lymph vessel dilatation; many newly formed vessels; inflammatory changes in the vascular walls; sclerosis and degeneration of the collagen; deposits of extracellular and intracellular pigment; polymorphous cellular infiltrations in the derma, including pigment-bearing cells and erythrocytes, round cells with large nuclei and a narrow rim of protoplasm, connective tissue cells with oval nuclei, groups of embryonal cells of endothelial type, endothelial cells with large, spherical nuclei and with nucleoli, varying a great deal in tinctorial properties. The lymphocytic cell predominates in all sections.

Histology of Lymph Nodes. Gland from Groin. Low Power: The arterial walls in the capsule are thinned; the vessels in the medullary portion are dilated and filled with red blood cells, the walls being moderately thickened. The lymphatic spaces are dilated. The cortical portion presents a moderate grade of edema, with dilatation of the perinodular lymph sinuses. The secondary lymph nodes in places retain an apparently normal shape and size, while in some areas their

outlines are lost, due to the cellular infiltration. A large amount of pigment is scattered throughout the nodes. High Power: An early stage of the inflammatory process is apparent in the secondary nodes, in which only the central portions are affected; these areas contain embryonal cells of endothelial type, similar to those noted in the corium of the skin sections; pigment granules and mitotic figures are abundant. In the more advanced stage, almost the entire secondary node consists of these embryonal cells. There is an increased connective tissue stroma, with proliferation of connective tissue cells, round cells with darkly stained nuclei and many pigment granules. There is considerable edema and vascular dilatation, the vessels filled with red blood cells.

Gland from Deep Cervical Region. Low Power: The cortex is more compact than in the gland above described; that is, the edema is less pronounced. The secondary lymph nodes are less sharply outlined, while the vessel walls of the hilus are thickened and sclerosed. The endothelial proliferation is similar to that of the gland from the groin, but less extensive; mitoses are few. The connective tissue stroma is more condensed throughout; comparatively little pigment matter is present. In places there is a marked dilatation of communicating lymph spaces. The high power presents changes similar to those described above.

The following report was kindly submitted by Professor Larkin, who examined the gland from the groin:

The first examination of tissue was made on Feb. 25, 1915, with a tentative diagnosis of extensive endothelial proliferation in the perilymph sinuses and in the germ centers of the lymph nodes. The microscopic picture was so irregular that I can distinctly recall having sent specimens to Professor Ewing to get his viewpoint on the case. It was just about this time that his article appeared in the *Journal of Medical Research* on several cases which he had examined and classed as primary endothelioma of the lymph node, and knowing his interest in such cases I asked him to look the slides over. His diagnosis was confirmatory of the previous diagnosis which I had made; namely, that there was an extreme endothelial hyperplasia in the perilymph sinuses, and that he was of the opinion that it was associated with and dependent on a granulomatous infection, and that the endothelial hyperplasia was in response to an inflammatory irritant, bringing about extensive proliferation. We both thought that it did not come within the classification of primary endothelioma. Neither did my former diagnosis seem to confirm that it was in any way connected with lesions seen in the lymph nodes in Hodgkin's disease.

Reexamination of numerous sections of lymph nodes stained in various ways shows a corresponding picture of intense endothelial proliferation in the perilymph sinuses; also an increased connective tissue stroma of the reticulum, and an increased connective tissue proliferation in the germinal centers of the lymph nodules. This has resulted in a gradual displacement of the lymph node proper. Extensive pigmentation is seen in all sections. Many of these sections have been examined for the presence or absence of iron by the ferrocyanid potassium test, and have given a positive reaction in all cases. This gradual recession of lymph nodes which you mention seems to be conclusive on account of the gradual and extensive connective tissue proliferation. The case is one of unusual interest from a pathologic standpoint.

COMMENT

The literature dealing with the integumentary manifestations of leukemia and pseudoleukemia, lymphogranulomatosis, lymphadenosis and the so-called aleukemic lymphadenides, contains several examples in many ways similar to the subject of this report, as far as the clinical and microscopic appearances are concerned. With a single exception, however, none of the skin changes described in these reports manifested a diffused cutaneous atrophy, with its attendant anetodermia. This exception is mentioned by McDonagh,[6] who had under his care a patient with lesions simulating dermatitis atrophicans.

Under the subtitle of Intermediary Aleukemia Cutis, McDonagh states:

> The cases exhibiting erythrodermia may be divided into two classes: those in which the erythrodermia is widespread and often sufficient to produce total alopecia, and those in which the erythrodermia is localized to one or more patches. In both cases the erythrodermia may disappear before any tumor formation is seen, leaving either no trace behind it, or, more often, a marked pigmentation; or the tumor formation, especially in the localized cases, may appear in the center of the patches of erythrodermia.
>
> The tumors may ulcerate, a process which usually results in their spontaneous cure—not in a cure of the disease, because fresh patches of erythrodermia with ultimate tumor formation, will appear elsewhere. I have had one singular case under my care, an exact replica of which I have never seen described.
>
> Case 86.—A man, aged 47 years, having had syphilis over twenty years before, sought advice for a skin lesion he had had for the last three years. The patient had a rash which extended over the upper half of the left side of the chest, the left shoulder and down the left arm to about the lower third. The rash was typical of dermatitis atrophicans, the skin rolled and looked thin, like cigarette paper, and the vessels were clearly discernible underneath. The periphery of the lesions simulated exactly the localized patches of erythrodermia, which precede the condition called lymphogranulomatosis cutis. The itching was intense and the skin trouble was undoubtedly spreading. On the arm, where the skin had not become atrophic, was a very slowly spreading ulcer, which simulated closely a rodent ulcer. All treatment was unavailing. The patient was not clear as to whether the ulcer had been preceded by a swelling in the skin or not.

McDonagh's interpretations of the clinical and pathologic changes taking place in the various diseases of lymphatic origin, together with closely allied conditions, such as mycosis fungoides, lymphodermia perniciosa, etc., are exceedingly interesting and instructive, and the portion of his book dealing with the biology of inflammation and malignant disease should be studied by anyone interested in the subject. An original dissertation on the relationship between mycosis fungoides, lymphodermia perniciosa and lymphogranulomatosis cutis will be found well worth careful study, the author's opinions being apparently founded entirely on his personal experiences and observations. He says that in his opinion, the three diseases mentioned above are, both

6. McDonagh, J. E. R.: The Biology and Treatment of Venereal Diseases and the Biology of Inflammation and Its Relationship to Malignant Disease, London: Harrison and Sons, 1915, p. 552.

clinically and histologically, names for different stages of the same condition—an opinion with which the writer of this paper does not entirely concur.

In my patient, described as an example of lymphadenosis cutis universalis, the diagnosis is based on the peculiar clinical and histologic findings. Clinically, the skin changes were looked on by several dermatologists as closely simulating mycosis fungoides, although to my eyes, such a simulation was not manifest at any stage of the disease. In mycosis fungoides true atrophy of the skin, with anetodermia or cigarette paper wrinkling, is not known to occur, even in the end stages of the malady; such a state of generalized atrophoderma is seen in diffuse idiopathic atrophy, in rare cases of leprosy and perhaps syphilis, and in the terminal periods of pityriasis rubra of Hebra. Furthermore, patients with mycosis fungoides almost invariably succumb to some intercurrent malady, to metastatses in the viscera, to malnutrition or to a general toxemia. In my case there was an actual gain of 14½ pounds in weight under a rather meager hospital diet, during a period of about five months; this gain in weight took place within the last year, that is, the eighth or ninth year of his affliction. The only form of treatment to which the man was subjected during the past year has been the Roentgenization of the tumors and ulcers of the skin. Still another clinical feature not seen in mycosis fungoides is the almost universal, peculiarly patterned, reticulated pigmentation, which, at the present writing, has involved nearly every inch of his skin.

Histologically, mycosis fungoides may be readily excluded. There is not the usual variety and polymorphism of cells in the infiltrates, which one would expect to see in a mycosis fungoides of nearly nine years' standing; plasma cells are few and true giant cells are not present; the peculiar nests of endothelial cells described in the skin and lymph nodes are not seen in mycosis fungoides and constitute a peculiar feature of my case. The large subepidermal vesicles, present to a greater or less extent in nearly all of the sections, are not usually associated with mycosis fungoides.

For their aid in the study of the microscopic sections, I desire to thank Drs. E. J. Snyder and D. L. Satenstein; and to Dr. G. M. MacKee I extend my thanks for the photographic illustrations.

NOTE. The discussion of Dr. Wise's article will appear with the discussion of Dr. Frazer's article on Mycosis Fungoides, which will appear in the December issue of THE JOURNAL.

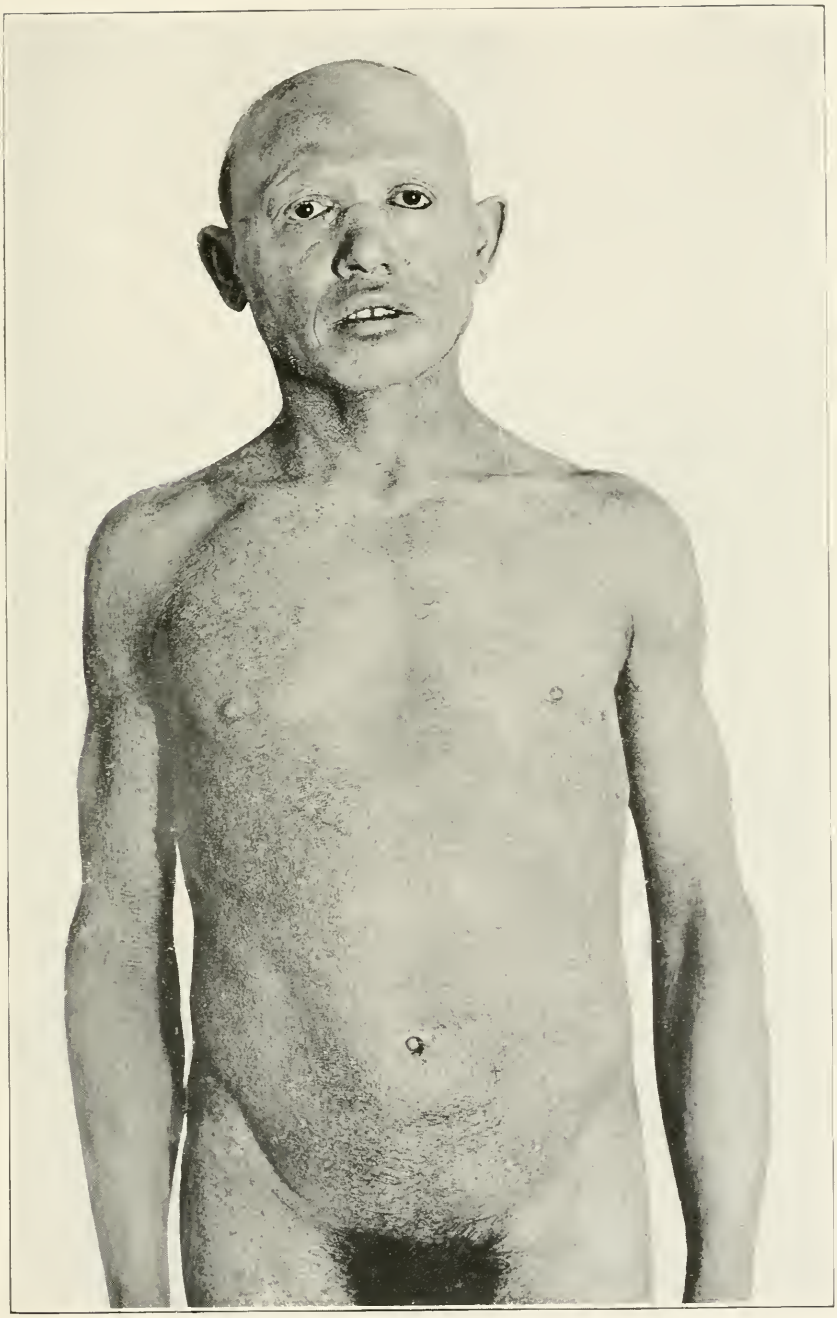

Fig. 1.—Showing edema of forehead and lip, alopecia, pigmentation and atrophy of the skin.

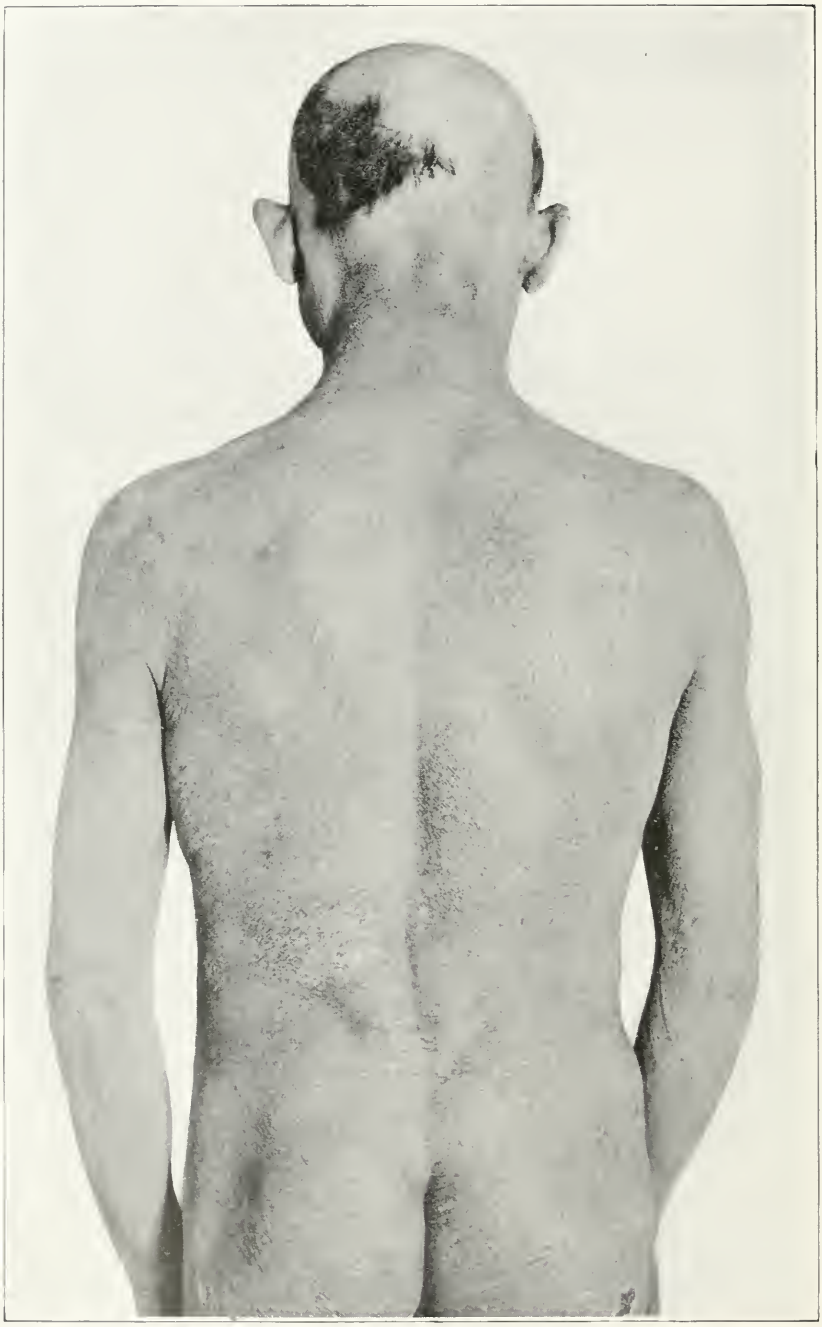

Fig. 2.—Showing alopecia, atrophy and pigmentation; eczematous area on left lumbar region.

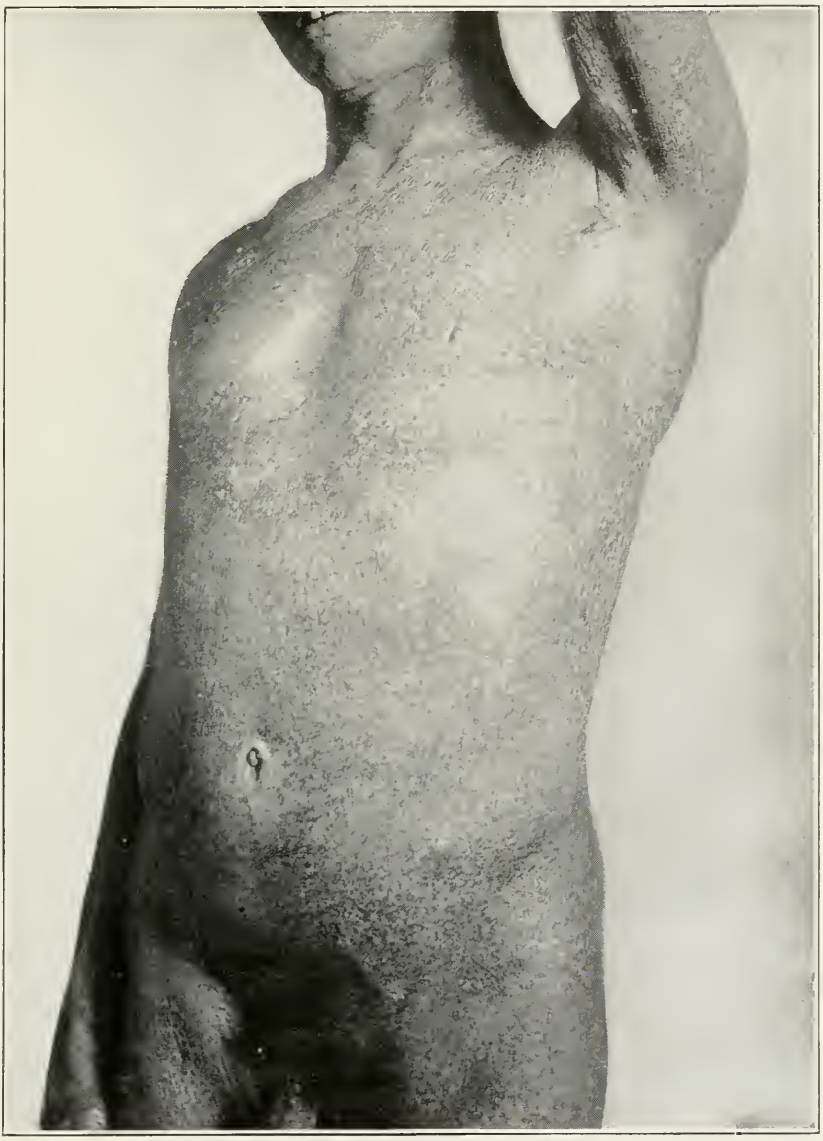

Fig. 3.—Showing pigmentation, atrophy and wrinkling of the skin; alopecia of the axilla.

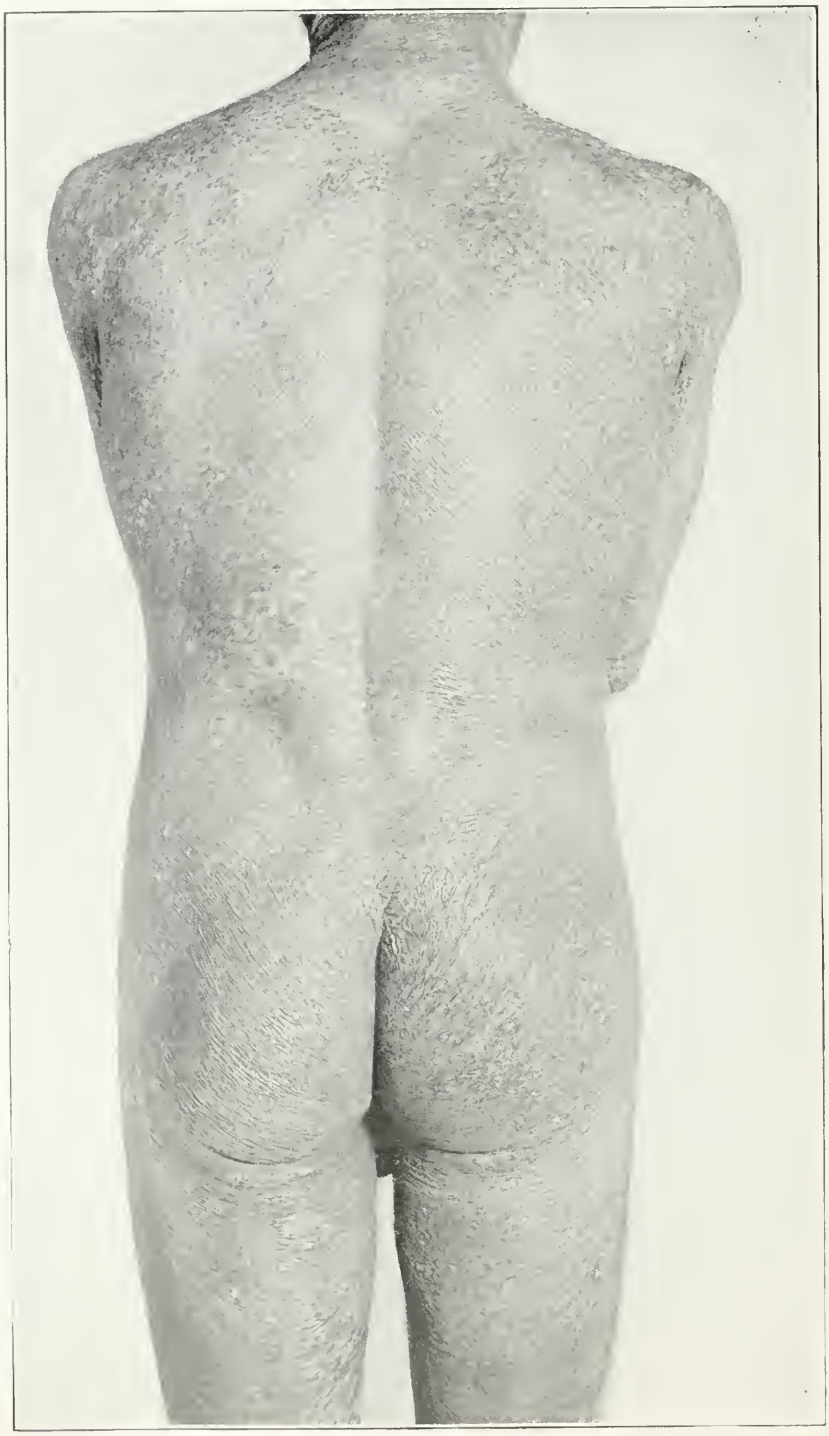

Fig. 4.—Showing atrophy, wrinkling and pigmentation of the skin.

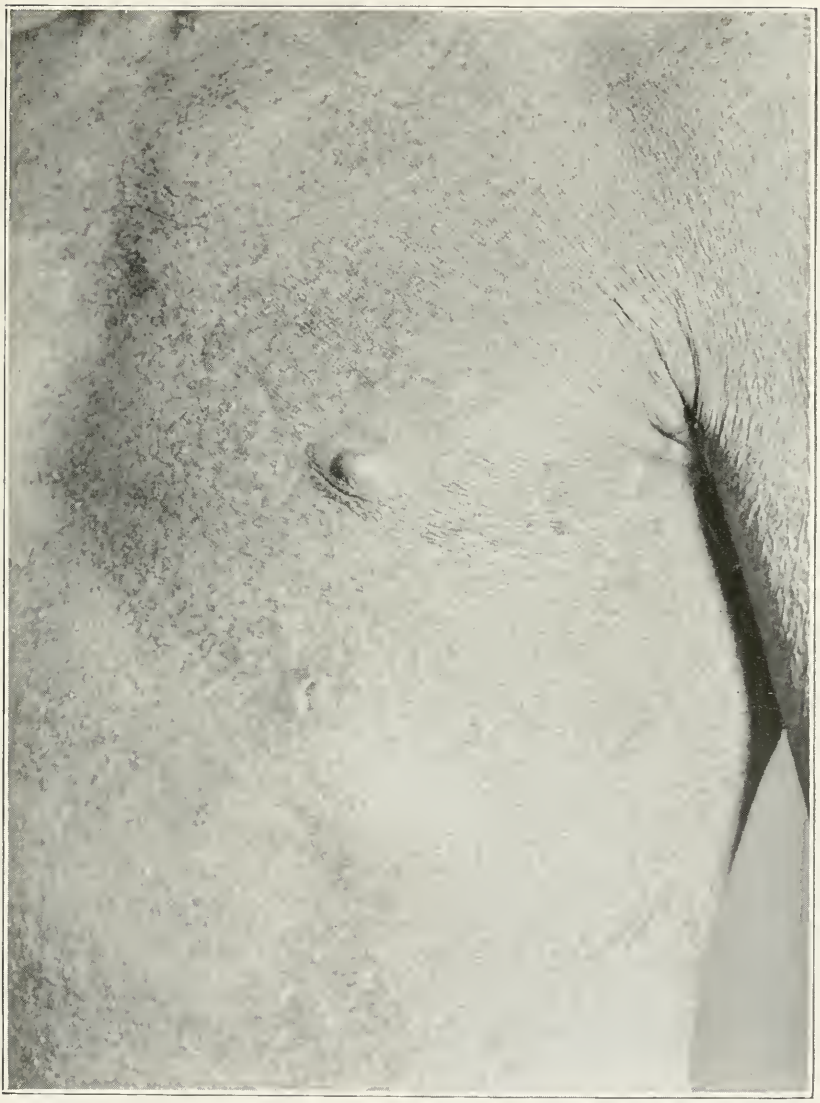

Fig. 5.—Showing the mosaic-like, reticulated pigmentation of the chest wall; wrinkling and atrophy of the skin.

Fig. 6.—Acrodermatitis chronica atrophicans: showing the resemblance of this form of atrophy and wrinkling, to that of the preceding illustrations.

Fig. 7.—Showing two boggy tumors of forearm; reticulated pigmentation of the skin; anetodermia about the elbow.

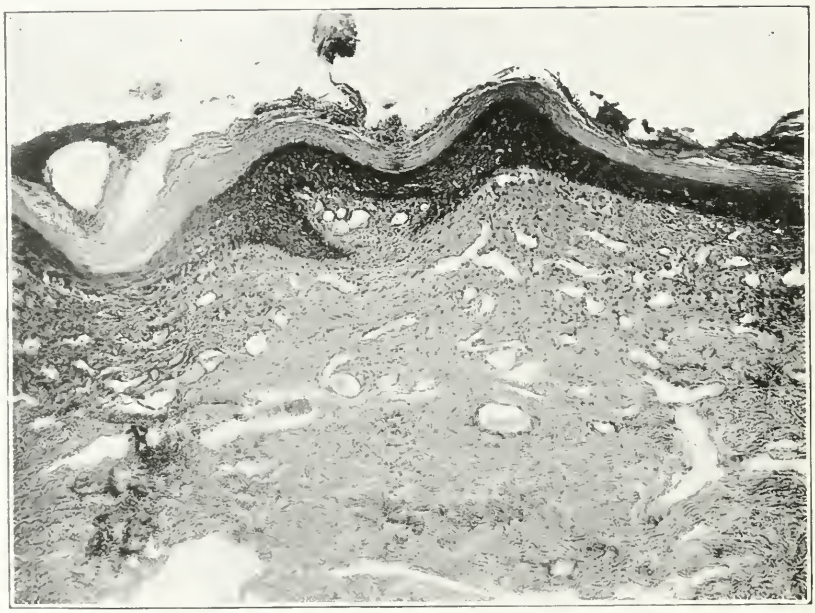

Fig. 8.—From skin between shoulder blades, showing intense edema of the entire skin; vascular and lymphatic dilatation; cellular infiltration; loss of papillæ; thin epidermis with hyperkeratotic horny layer.

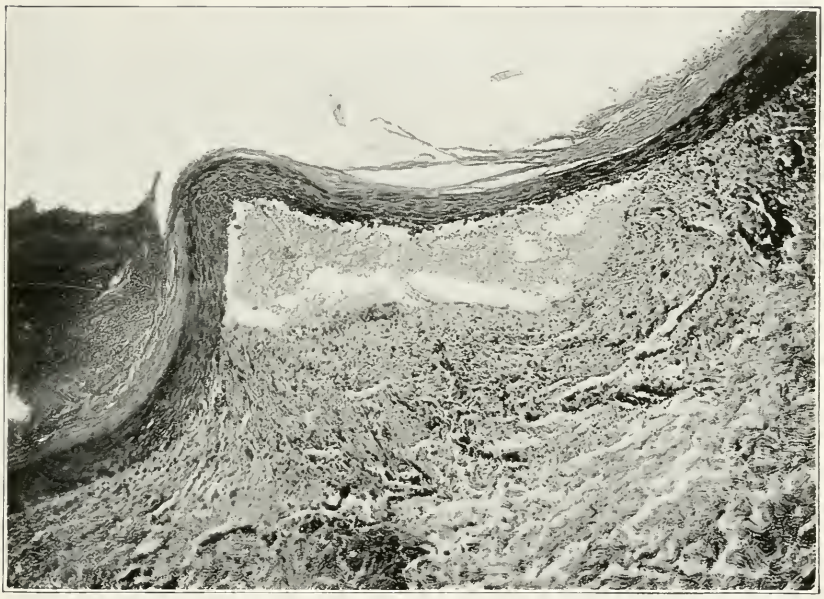

Fig. 9.—Skin showing atrophy of epidermis and subepidermal vesiculation; edema of cutis.

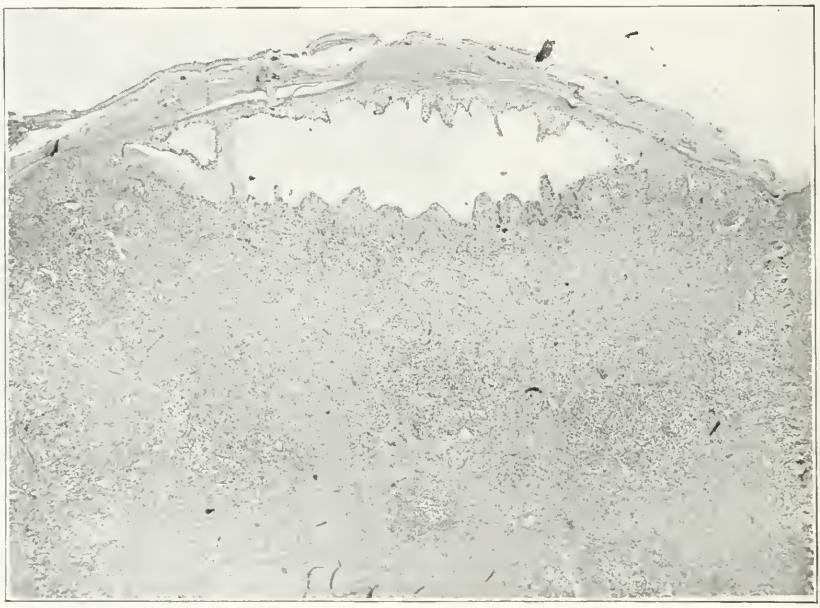

Fig. 10.—Skin removed from the friable skin overlying a boggy tumor of the back. Showing subepidermal vesiculation.

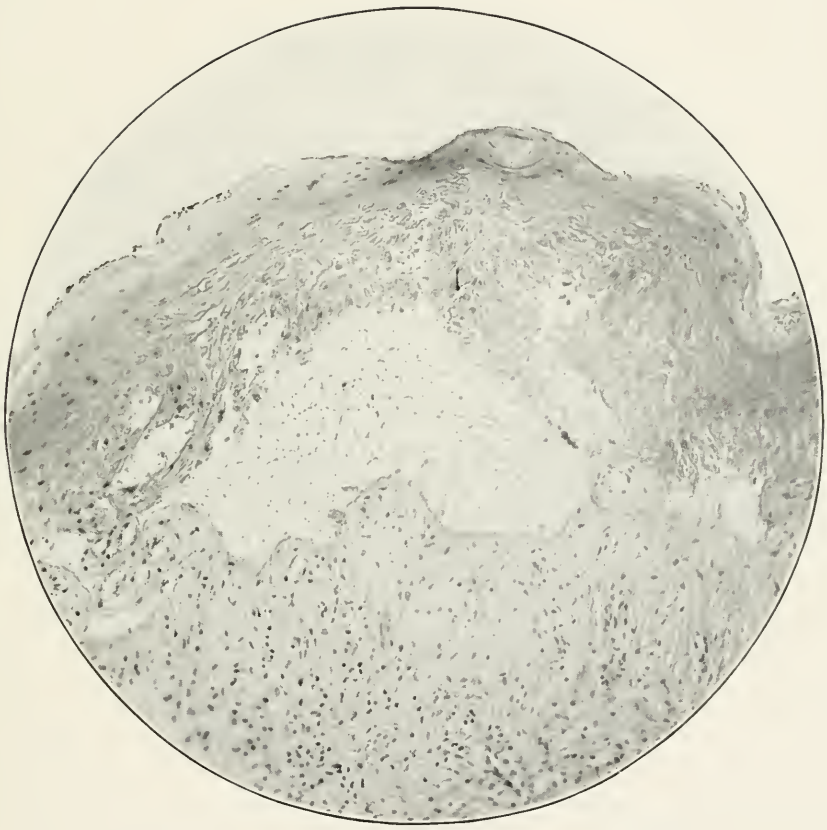

Fig. 11.—Skin showing subepidermal vesiculation.

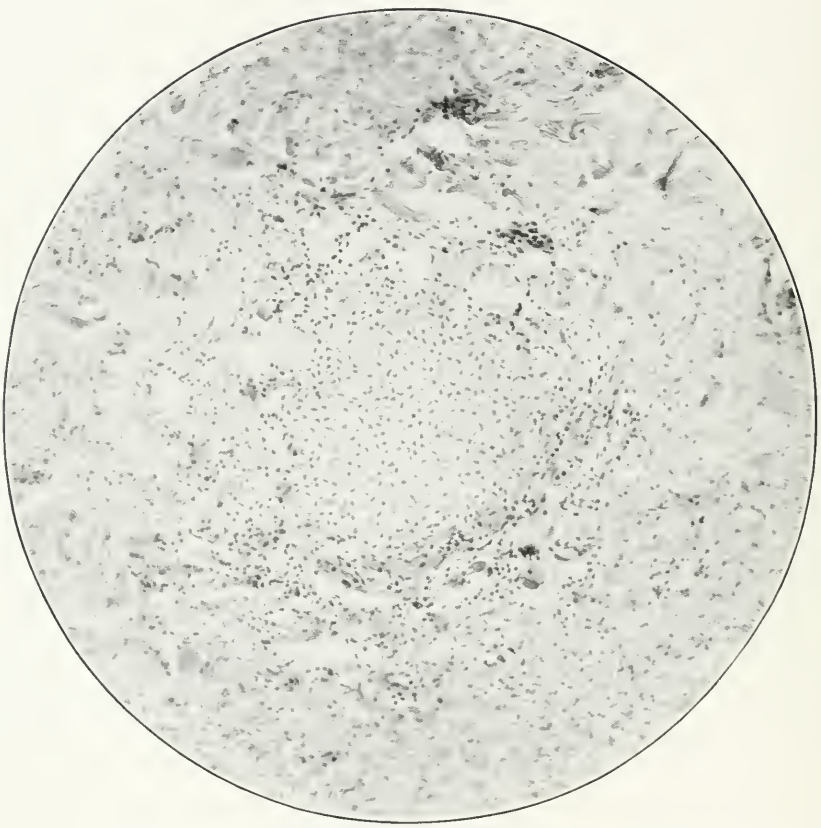

Fig. 12.—Skin showing area composed of embryonal cells of endothelial type. Zeiss obj. 8 mm. Co. oc. 4.

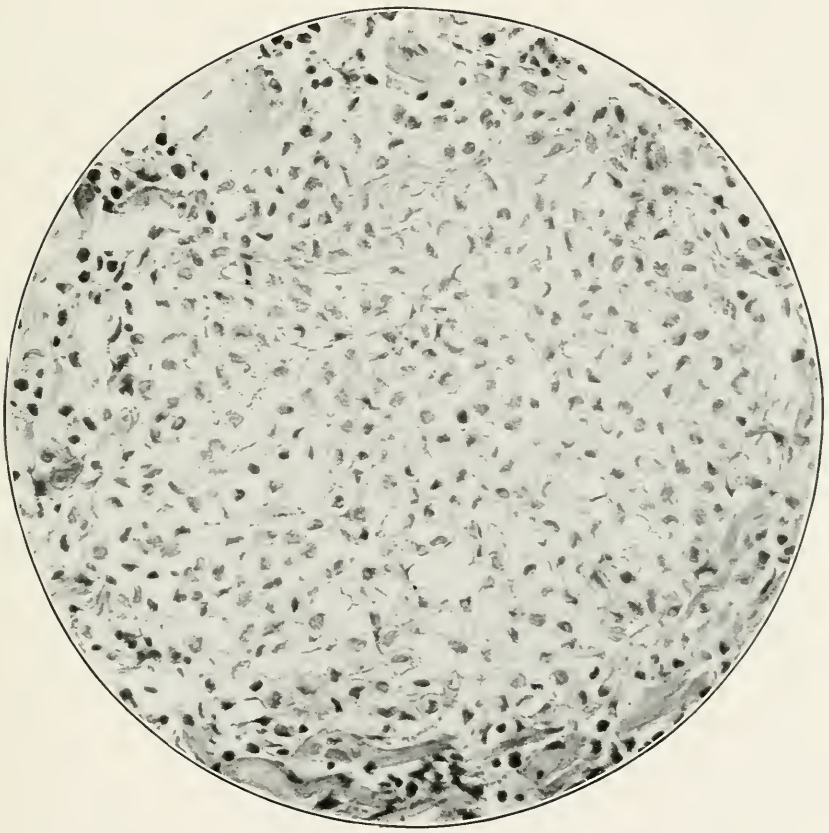

Fig. 13.—Skin showing groups of embryonal cells of endothelial type. Zeiss obj. 4 mm. Co. oc. 4.

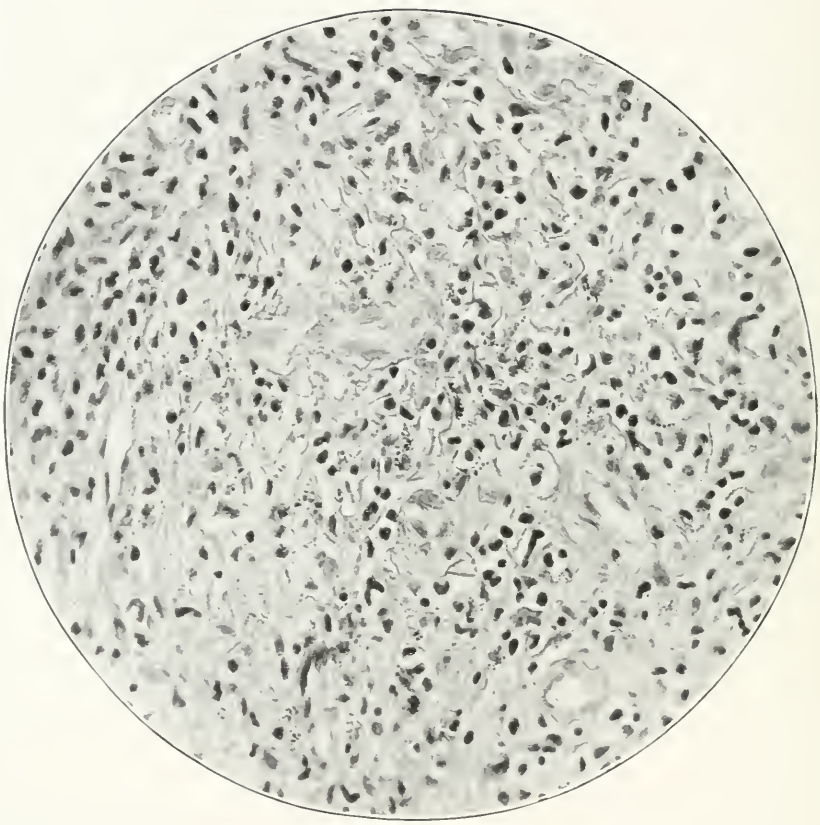

Fig. 14.—Skin showing intracellular pigment deposits. Zeiss obj. 4 mm. Co. oc. 4.

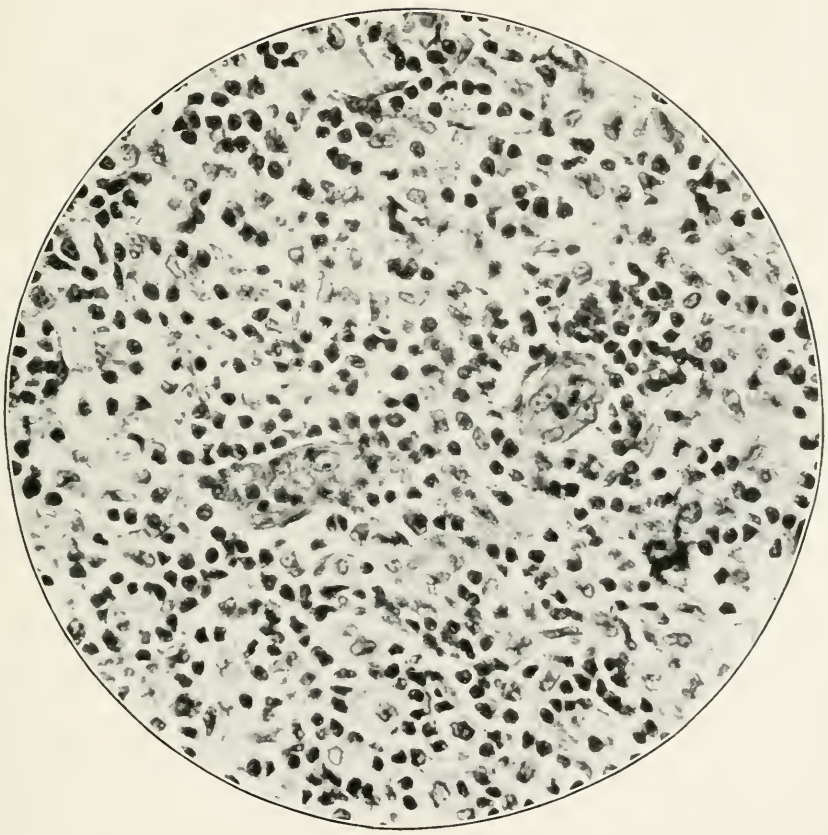

Fig. 15.—Gland showing fragments of blood vessels comprising swollen and proliferated endothelial cells and containing lymphocytes. Zeiss obj. 4 mm. Co. oc. 4.

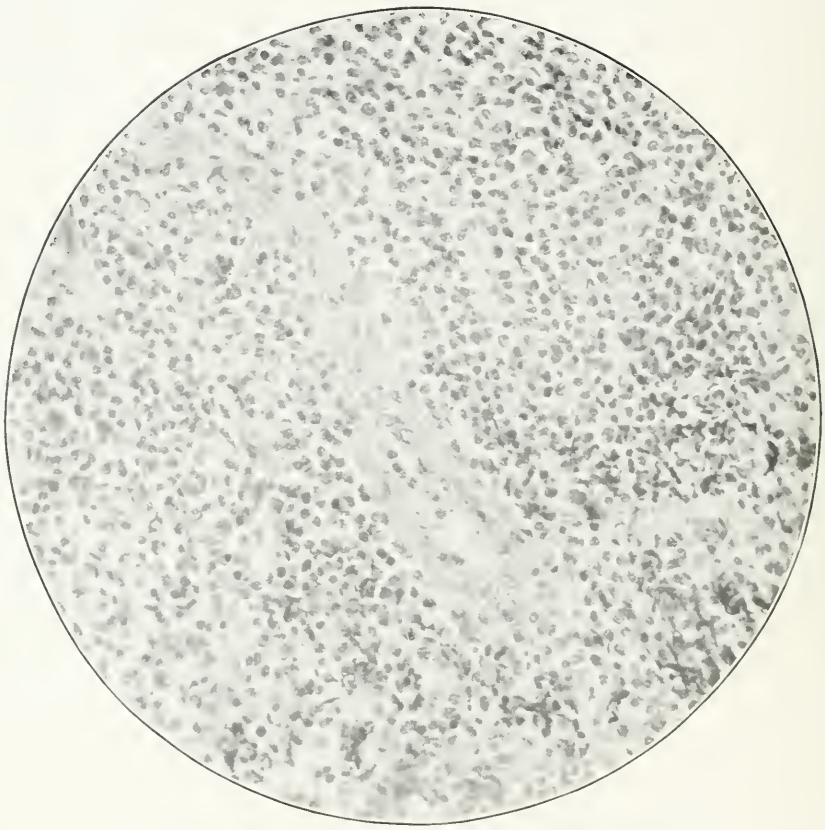

Fig. 16.—Gland showing thickened blood vessels due to proliferation of lymphocytes and containing lymphocytes; also giant cells, probably derived from such vessels.

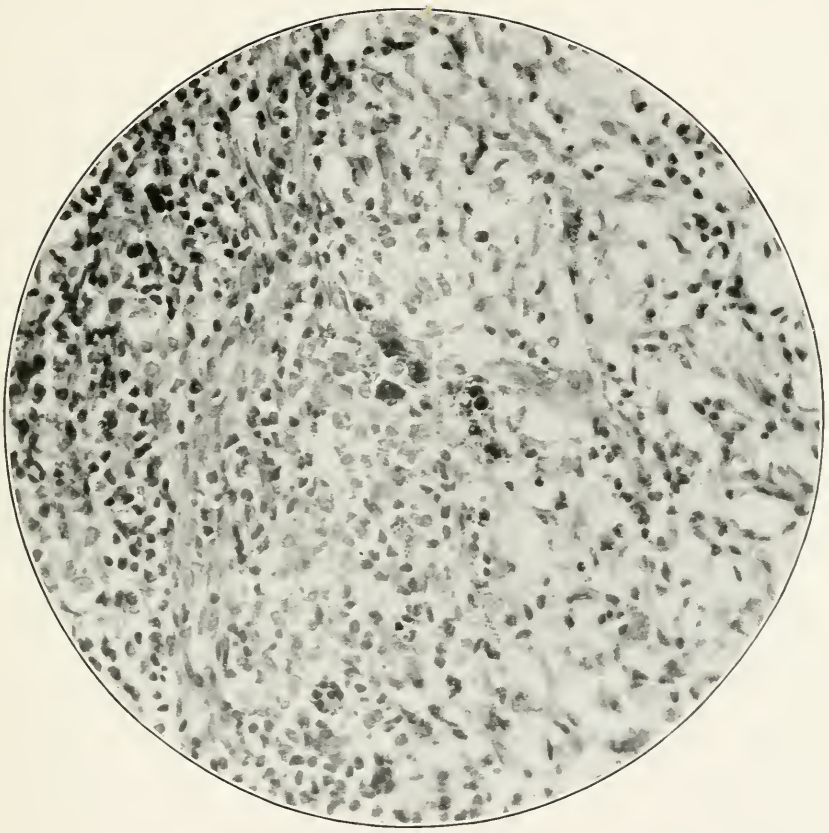

Fig. 17.—Gland showing intracellular pigment deposits. Zeiss obj. 4 mm. Co. oc. 4.

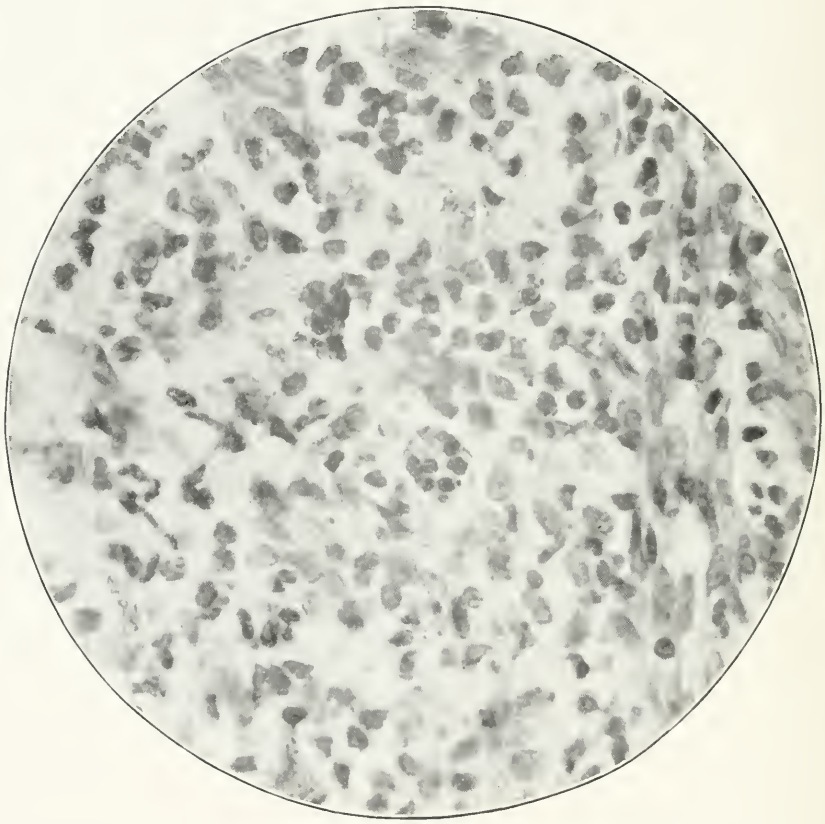

Fig. 18.—Gland showing intracellular pigment deposits. Zeiss obj. 3 mm. Co. oc. 12.

Society Transactions

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, Feb. 28, 1917

JAMES C. JOHNSON, M.D., *President*

PURPURA ANNULARIS TELANGIECTODES. PRESENTED BY DR. MACKEE FOR DR. FORDYCE.

The patient, a woman aged 34, exhibited an eruption which was of three months' duration and was limited to the legs and thighs. A similar attack occurred about a year ago, endured for about four months and disappeared without leaving atrophy. There were no subjective symptoms excepting a mild pruritus in the affected area and some indefinite rheumatic manifestations, both of which might have been coincidental. The eruption consisted of telangiectatic puncta which showed a marked tendency to arrange themselves in groups. Many of these groups were annular, the border being composed of dull-red puncta, and the center possessing a yellowish color. The color of the puncta could not be removed by pressure and many of these minute lesions were apparently follicular. There was no desquamation nor was there any atrophy. The eruption was in the stage of involution, so that the vivid coloring of the early periods was wanting.

Histologically, there was a moderate numerical increase in the superficial vessels, which arranged themselves in groups and were considerably dilated. The vessels in the papillæ and in the subpapillary layer were congested. An occasional hemorrhage could be seen. In one section a hemorrhage had destroyed a papilla and a part of the epidermis. The walls of the blood vessels were thickened and there was some endothelial proliferation, and a slight to moderate small, round cell, focal infiltration. In the sections examined, there was no distinct degeneration of the walls of the vessels. The papillæ were somewhat flattened out.

The speaker said that the eruption was not secondary to some previous condition, such as an eczema, nor was it associated with varicose veins. The patient had not taken any medicine previous to the two distinct outbreaks. The disease conformed, both clinically and histologically, with the description of purpura annularis telangiectodes, as found in the literature. It was, however, a mild case, and while there were numerous lesions, they were too faint to photograph.

PEMPHIGUS OF MOUTH AND CONJUNCTIVA. PRESENTED BY DR. HOWARD FOX.

The patient, Anna L., was a Russian Jewess, 52 years of age (referred from the ophthalmological service of Dr. Rudolf Denig of the German Hospital). She did not recollect any illness previous to the birth of her first child, 31 years ago. This was followed by some gynecologic operation and since then she had suffered from leukorrhea, pains in the back, etc. She had had six children, two of whom had died. During the past year she had suffered from sore patches in the mouth "as if it had been scorched." About eight months ago she noticed bleeding from the gums and later from the nose. Four months ago actual blisters appeared on the tongue and palate. Shortly after bleeding from the nose appeared there was increased lachryma-

tion and the eyes appeared "red and bloodshot." For the past three or four months the lids had become less and less mobile by a growth on their surface. Examination showed a dozen reddish, glazed, superficially ulcerated, painful spots on the posterior part of the hard palate, soft palate, buccal mucous membrane and sides of the tongue. One pea-sized, flaccid bulla of two days' duration was present on the mucous membrane of the lower lip. The lids of the left eye were somewhat immobile and could not be widely opened. Both conjunctival surfaces were congested and the seat of a red, roughened tissue, extending from the scleral margin toward the edge of the cornea, especially at the inner canthus. This produced a general shrinking of the exposed surface of the eyeball. The patient was well nourished, but had lost a good deal of weight in the past six months.

DISCUSSION

DR. CLARK said that at another meeting, a few nights before, he had heard Dr. Weidler report on two cases of what he called pemphigus of the conjunctiva, and the description of this case tallied exactly with Dr. Weidler's—the apparent tendency to fill up from the bottom of the sulcus and for the eyelids to more or less grow together, restricting the opening of the lids, an essential shrinkage. This seemed to be a true pemphigus of the lids and of the mucous membranes of the mouth and was a most interesting case.

DR. WHITEHOUSE said that the essential shrinking of the eyelids was typical.

DR. HEIMANN said that he had seen a case of Dr. Martin Cohen's last summer in which the lesions had been restricted to the eyelids for a number of years, and finally typical pemphigus lesions appeared on the arms and elsewhere. He agreed with the diagnosis.

DR. HOWARD FOX thought it proper to classify this disease as one of pemphigus, although it was true that the term was generally understood to apply to one of four classes of skin affections which were invariably more or less generalized. Some cases, however, with localized lesions (similar to the one presented) eventually developed generalized pemphigus of the skin, even though at times the disease had previously been apparently localized in the mouth and conjunctiva for many years.

PSEUDOLEUKEMIA CUTIS. PRESENTED BY DR. CLARK.

The patient, T. G., male, was a Russian by birth, 30 years of age. About three years ago the patient, who was a large, well nourished man, began to suffer from an intolerable itching of the skin in various parts of the body and about the same time he began to notice brown patches on the skin of the arms and legs, where the itching was most intense. These brown stains had persisted, as well as the itching, and other brown areas had appeared on the arms and legs, and some on the trunk. Seven weeks ago the patient began to suffer from severe pain in the region of the shoulder, and groups of blisters appeared in front and on the back of the shoulder, which later crusted; later the crusts came off, leaving superficially stained areas in groups. A year ago the patient first noticed some enlargements in the axillary regions, groins and cervical regions, which had slowly increased in size.

The patient was a large, well formed man, showing some pallor of skin. There was a rather characteristic glandular enlargement of considerable extent in the groins and axillary regions, and appreciable enlargement of the cervical glands. The spleen was not appreciably enlarged. Scattered on the arms, particularly on the posterior aspect, on the lower part of the legs and on the sides of the chest and back were numerous large and small reddish-brown areas, infiltrated patches, and variously sized flat nodules in the skin, of a similar color. These lesions showed no signs of ulceration or of tending to disappear; they shaded off gradually into the surrounding tissues and tended to run together, presenting in areas a picture not unlike the premycotic stage

of mycosis fungoides. It was interesting to note that the skin lesions began to appear two years before the patient noticed any glandular enlargement or experienced any failing health. On the left shoulder there were grouped areas that probably represented a herpes zoster beginning seven weeks ago, with lancinating pains in that region.

The patient's Wassermann was negative.

The blood picture was: Erythrocytes, 7,460,000; leukocytes, 8,600; polynuclears, 60 per cent.; small lymphocytes, 37 per cent.; large lymphocytes, 3 per cent.

DISCUSSION

DR. HOWARD FOX suggested the possibility of mycosis fungoides, but thought that the diagnosis could be settled only by the microscope.

DR. MACKEE agreed with Dr. Fox. While the enlarged glands, occurring so early, would favor a diagnosis of leukemia, he thought a histologic study should precede an attempt to differentiate between leukemia and mycosis fungoides. He then called attention to the fact that roentgen-ray treatment was likely to be less efficacious in leukemia cutis than in mycosis fungoides.

DR. WISE agreed with Dr. Fox's diagnosis at the present stage of the disease, and expressed the opinion that frequent examination of the blood should be made, bearing in mind the possibility of the presence of leukemia.

DR. HEIMANN agreed with Dr. Wise. The patient's blood picture was not normal, to begin with. The lymphocytosis was 40 per cent., of which 37 per cent. were small leukocytes as against a normal count of 25 to 30 per cent., and a total of not over 35 per cent. Glandular enlargement was the exception until an advanced stage of the disease had been reached. For these reasons he was inclined to agree in general with the diagnosis, except that he would go farther and call it leukemic rather than pseudoleukemic or aleukemic leukemia.

DR. CLARK in reply to an inquiry from Dr. Heimann as to whether the blood count was taken before or after the roentgen-ray treatment, said that it was taken before the patient had any roentgen-ray treatment.

ALOPECIA AREATA. PRESENTED BY DR. HOWARD FOX.

The patient, A. S., was a girl 7 years of age, born in the United States of German-American parents. She was first seen on March 9, 1916. At that time it was stated that her hair had fallen out two and a half years before, following an unknown fever of six weeks' duration. The scalp was entirely bald except for a few long strands of hair at the posterior part of the vertex. During the past year she had received altogether fourteen treatments with the Alpine lamp and on presentation the vertex was fairly well covered with long stiff hair. The lower portions of the occipital and parietal regions were still bald.

DISCUSSION

DR. CLARK said there seemed to be a very distinct growth of hair on the top of the head. The treatment would seem to have had some effect.

DR. WHITEHOUSE thought that probably the growth of the hair was promoted by the light treatment. He himself had employed the Kromayer light in such cases with good results.

DR. SHERWELL expressed himself as being in favor of treating the patient constitutionally with thyroid, as he thought the regenerative influence of such treatment would be decidedly beneficial. He also thought, from the appearance of the patient, that Syrup ferri iodidi and arsenic would be beneficial.

DR. WISE said that he had treated several cases with the Alpine light, but did not get any better results than with the older methods of treatment.

DR. MACKEE said that the case seemed to prove that the ultra-violet rays encouraged the growth of hair in alopecia areata. The fact that the hair had

grown only on the parts subjected to the treatment and that it had not fallen out again was very interesting.

DR. HOWARD FOX said that of course no conclusion could be deduced from the result in one case. During the past year he has treated about fifteen cases of alopecia areata with the Kromayer and Alpine lamps and was rather favorably impressed with the results obtained. At all events, the interest of the patients was sufficiently aroused to allow treatment to extend over a long period, in the great majority of the cases, until a cure had been obtained.

LEUKEMIA CUTIS (?). PRESENTED BY DR. CLARK.

The patient, T. R., was a man, 48 years of age, born in Russia. About eight months ago he began to have rapidly growing swellings in the cervical and axillary regions and in the groins; he also suffered from a feeling of fulness in the upper part of the abdomen and lost flesh and strength. At that time he applied to the medical department of the Postgraduate Hospital, where the diagnosis was made and the patient was put under intramuscular injections or arsenic, without much effect. Five months ago he began to have roentgen-ray exposures made to the various regions of glandular enlargement and over his spleen, with a gradual but very marked reduction in the size of the glands and spleen, though they could still be palpated. He had experienced some improvement in his general health since he began having roentgen-ray exposures.

Five weeks ago, small, firm, discrete lumps that were very itchy began to appear on his arms and lower legs, and a week ago lesions appeared on the forehead and face, accompanied by itching so intense that he has scratched them severely and could not sleep.

On the extensor surfaces of his arms and lower legs and on his face (mainly on the forehead) were numerous reddish or reddish-brown firm, discrete papules, varying in size from that of a millet-seed to that of a small split pea, some of which had been severely scratched, all of which were itchy and showed no tendency to disappear. There were no lesions on the trunk. The lesions did not seem to run together, but some were apparently growing larger. They were quite firm, solid nodules.

Six months ago the patient had a leukocytosis of 405,600, of which 2 per cent. were polynuclears, 4 per cent. large mononuclear lymphocytes, and 94 per cent. were small lymphocytes.

DISCUSSION

DR. WISE agreed with the diagnosis as presented.

DR. WHITEHOUSE said that he was interested in the case because a few years ago he had presented before the Society a case of lymphatic leukemia with an eruption that was not distinguishable from dermatitis herpetiformis —papules and vesicles with grouping, intense itching, etc.—very similar to this one excepting that this one was not the papulovesicular type. At that time Dr. Fordyce suggested that cases like this might give some clue to the cause of dermatitis herpetiformis, which we knew very little about, etiologically.

DR. WILLIAMS said that some men had called attention to the resemblance to prurigo nodularis. He did not agree with that suggestion: in that disease the papules began deeper in the skin and the epithelium was at first normal and of normal color. Later, the epithelium became greatly thickened and even horny.

DR. CLARK said he would try to have a biopsy made in both cases which he had presented and report on them later.

SUPERFICIAL LUPUS VULGARIS OF SERPIGINOUS TYPE. PRESENTED BY DR. HOWARD FOX.

The patient, M. L., was a Jewish woman, 39 years of age, born in Jamaica, West Indies. There was no history of tuberculosis in her family. Her father

had died of an unknown disease. Her mother, four brothers and five sisters were living and healthy. She had been married 22 years and had seven children, all of whom, she stated, were apparently healthy. The eruption first appeared on the back of the left knee, when she was 17 years of age. About fifteen years ago the lesions appeared on the face. The eruption later involved both hands and forearms and both legs, requiring several years to attain its maximum development. Of late years, the spreading of the disease had been very slow. About ten years ago she began to be treated by a physician in Jamaica with the roentgen ray, receiving several hundred treatments in the course of the past ten years. Shortly after the roentgen ray had been used, a radiodermatitis appeared. At times she had been severely burned and on one occasion was confined to her bed for five months as the result of a roentgen-ray burn of the leg.

The eruption was present on the face, forearms, hands and legs. On portions of these regions there was evidence of a very severe radiodermatitis where former lesions had been treated. The eruption was a superficial, serpiginous process, with a narrow, sharp, wavy, advancing border. This active border was elevated, firm, infiltrated, dry, smooth and of a dull red color. There was no appreciable scaling, no ulcerating, no evidence of itching and no change in cutaneous sensation. There were no typical apple-jelly nodules to be seen. On the right forearm the active border was sharply circumscribed toward its proximal side and formed a complete band, one half an inch thick around the lower third of the forearm. The back of the right hand showed marked radiodermatitis, but no apparent evidence of tuberculosis. On the left forearm the border did not extend around the entire circumference, being broken on the flexor aspect. Distal to the elevated border was a dull, reddish area perceptible for an inch or more, fading as it approached the wrist. The left hand showed marked radiodermatitis, including atrophy and partial ankylosis of the bones of the middle, ring and little fingers. On the left side of the face there was a nickel sized, semicircular, infiltrated patch and along the left edge of the lower jaw an area of radiodermatitis, including two small ulcers. The lesions on the right leg were somewhat similar to those on the left arm. They consisted of the usual elevated border, beginning below the knee and extending along the outer aspect of the junction of the upper and middle two thirds of the leg, downward and backward in an oblique direction. From this line toward the ankle there was a diffuse bluish discoloration. The left leg showed no active lesions. There was, however, a circle about 8 inches in diameter, of radiodermatitis extending around the entire knee.

DISCUSSION

Dr. Clark said that he would have difficulty in determining this to be a lupus vulgaris, as he could not see any lupus nodules. His first impression was that it was lupus erythematosus.

Dr. Whitehouse said that his thought was of lepra; that was fully worth considering in this instance. He would not think of lupus until an investigation was made as to its being a possible lepride; the lesions on the face showed the characteristic infiltration suggestive of lepra. He had not seen any lupus of that type.

Dr. Sherwell said that bearing in mind the patient's place of origin the same thought had occurred to him as that expressed by Dr. Whitehouse.

Dr. Wise agreed with the diagnosis of lupus vulgaris of the superficial type, having seen similar instances.

Dr. Williams said that the case resembled several that he had seen in the last few years, in the lack of typical lupus nodules: it had not the clinical appearance of lupus. On the other hand, like other cases, it showed the purplish discoloration, infiltration, sharp margins and very slow progression. The two cases that he knew of showed, on microscopic examination, the usual

picture of tuberculosis. They went on with little or no crusting or ulceration and a very slow progress.

DR. HOWARD FOX said he had made a diagnosis of an unusual form of superficial tuberculosis of the skin by exclusion of other diseases and from a study of several somewhat similar cases. The eruption had existed for twenty years, spreading very gradually and never ulcerating at any time. No one, he thought, would consider syphilis in this case. He thought lupus erythematosus could be excluded on account of the raised, infiltrated border and the absence of scaling and atrophy, typical of this disease. Leprosy, he felt sure, could be excluded by the total absence of any change in the sensation of the patches. The fact that the patient had always lived in the West Indies was merely suggestive of leprosy. There was no history that would point to this disease and no symptoms, such as enlargement of the ulnar nerves, tingling of the fingers, etc. Among other similar cases which he had seen and had proved histologically to be tuberculosis was one that he had published under title of "Three Unusual Forms of Cutaneous Tuberculosis," in THE JOURNAL OF CUTANEOUS DISEASES in 1912.

LYMPHOSARCOMA (?) OF THE SCALP. PRESENTED BY DR. CLARK.

This patient had been presented for diagnosis at the previous meeting. A section had been taken from one of the nodules on the head and Dr. Heimann reported the condition to be lymphosarcoma. The patient had received one roentgen-ray treatment on Friday (four days previously) and was told to report in three or four days; yesterday he reported that all the nodules had disappeared. He was then asked to come to the meeting, and examination showed that he was correct, for apparently the nodules were gone. His blood picture had showed a relatively small lymphocytosis of 49 per cent.

DISCUSSION

DR. HOWARD FOX considered the result of the roentgen-ray treatment in this case to be extraordinarily good.

DR. MACKEE said it was well known that sarcomas, especially the benign or semimalignant types, would not infrequently undergo rapid involution following roentgenization; but that it was inconceivable that a lesion of any disease, even mycosis fungoides, could almost completely disappear within four or five days after an intensive roentgen-ray treatment, as had apparently occurred in Dr. Clark's case. He thought the explanation was that the involution was spontaneous and had been under way for some time before the roentgen-ray exposure. When the patient was exhibited at the last meeting some of the lesions were then growing smaller, and the larger lesions were fluctuating, which probably represented the beginning of spontaneous involution.

DR. HEIMANN said that if it had not been covered by epidermis he would have called it a lymph gland, it was so characteristically a lymphosarcoma. Outside of the involved area, the connective tissue was normal, as if the pathologic tissue had insinuated itself and grown forward, pushing away the normal collagen as it advanced. The cells were uniform in size, and had very deeply staining, large nuclei with a great deal of chromatin and a small amount of cytoplasm. One interesting feature was that the patient had an abnormal blood picture. He had wondered if this was a borderline case of sarcoma of the skin, connecting sarcoma with leukemia and mycosis fungoides.

DR. WILLIAMS said that there was not only a disappearance of the lesion but an atrophy of the skin where it had been. Last week there was an excrescence almost bony hard; at the second presentation the examining finger detected an unevenness, it was true, but an unevenness due to depression rather than to elevation, at the site of the lesion.

DR. CLARK said that, bearing in mind the possible relationship of the conditions mentioned, he had had a blood examination made, and it presented a

lymphocytosis of 49 per cent., which was some 14 per cent. higher than normal, and a relative increase in the small lymphocytes. He was as much surprised at the result of the treatment as any one, if it was due to that treatment. One had to bear in mind the history of this case. When it was first presented, he had spoken of certain rather distinct nodules toward the margin of the temple, which showed then only a slight infiltration or erythema. There was an interesting history of trauma connected with the case. The patient had lived for ten or twelve years in a house with a little cellar door, and many times in going down to this cellar he had had a sore head from banging it against the door, and he ascribed the condition to this bruising of his head in passing through the door. The blood picture presented was taken before the Roentgen-ray treatment. The speaker said he would endeavor to follow up the patient's blood picture from time to time.

LICHEN SCROFULOSORUM. PRESENTED BY DR. WHITEHOUSE.

The patient, C. B., was a woman, 26 years of age. Fourteen months ago she first noticed a reddish rash on the flexor surface of the left wrist. Ten months ago, an eruption of fine "pimples" appeared on the flexor surface of the left forearm. Nine months ago, a patch of fine reddish "pimples" came on the left side of the neck. Since then other patches appeared over the lower part of the sternum, on the flexor surface of the left forearm and upper arm, back of the right axilla and on the right hip. No new ones had appeared recently, but the patches seemed to have spread with the formation of fine papules. The lesions had never itched. The patient's general health was good. She was well-nourished and healthy looking. There was no tuberculosis in the family.

The lesions were fine, accuminate papules, pinpoint to pinhead in size, reddish, yellowish or brownish in color, showing distinct grouping. Where they were disappearing, they left some staining but no scarring; some lesions were quite shiny, others seemed to have a little scale on them. On the posterior surface of the arms and thighs there was a pronounced keratosis pilaris.

DISCUSSION

DR. WISE said that it was a highly interesting case and he would be pleased to know the result of a histologic examination.

DR. HEIMANN said the only other condition to be considered was lichen nitidus, but as the structure of the latter was also tuberculous this might contribute an artificial rather than a practical distinction.

DR. CLARK agreed with the diagnosis, and told of two similar cases which he had presented before the society. Some of the members had brought out the fact that the lesions should be the color of the skin. He did not consider that necessary; the few cases he had seen had varied in color. The slight scaliness of these lesions and the tendency to group, even though they occurred in a woman with no tuberculous history, would lead him to agree with the diagnosis as presented.

DR. WHITEHOUSE said he could suggest no other diagnosis, though the condition was atypical. All of these cases indicated a tuberculous condition, and possibly some evidence of this might be elicited on further study of the case. The color of the lesion was unusual—red. A biopsy, as had been suggested, would probably decide the matter, and he would try to get one.

LUPUS VULGARIS OR LUPUS ERYTHEMATOSUS WITH EPITHELIOMA. PRESENTED BY DR. HOWARD FOX.

The patient, H. J. H., was a man, 57 years of age, born in England, an enameller by occupation. He had come to this country as an infant. There was no history of family tuberculosis. He had two brothers and two sisters, living and healthy. He had suffered from a severe attack of scarlet fever as

a child and for the past twenty years from dyspepsia and occasional attacks of chills and fever. The eruption first appeared eight years ago on the bridge of the nose and later on the cheeks, spreading by formation of new patches and not by continuity. Since then it had gradually involved the entire face and neck and portions of the scalp. It appeared on the backs of the hands and wrists about four years ago. The eruption attained its maximum development on the face in about five years. Three years ago the horny mass on the right cheek first appeared and gradually increased in size. About two years ago the horny lesions on the left cheek and right ear and side of neck were first noticed. At times he had complained of slight itching, chiefly on the hands. On two occasions the large horny masses on the cheeks had been removed forcibly, leaving raw surfaces beneath, but in two or three months they had become as thickly crusted as before.

On examination, a diffuse, dull reddish infiltrated eruption was present on almost the entire face, ears, entire circumference of the neck and along the junction of the forehead and scalp. There was only slight scaling, no oozing, no scarring and no evidence of itching. The region of the eyelids and eyebrows was apparently unaffected. The border of the eruption was fairly well circumscribed and showed, especially on the forehead, isolated pin head lesions, very suggestive of apple jelly nodules. On glass pressure, brownish stains were to be seen. In the center of the right cheek was a mass, two and a quarter inches in diameter by three quarters of an inch in height. It consisted of brittle, greenish yellow crusts, with ill smelling discharge. On the left cheek was a similar, but somewhat smaller lesion where, however, the crusts were extremely hard to the touch. There were also numerous masses, some of them real cutaneous horns, on the right ear (helix and tragus) and along the border of the lower jaw. On the backs of the hands, fingers and wrists were thickened, dry, red, scaly and somewhat tender, fairly sharply bordered areas, closely resembling lupus erythematosus. The Wassermann reaction was negative. The urine showed nothing abnormal. The histologic examination had not been completed. The patient was in apparent good health, being a man of medium height and weighing 150 pounds.

DISCUSSION

DR. CLARK thought that the general condition on the face and hands suggested lupus erythematosus and epitheliomata.

DR. WHITEHOUSE agreed with Dr. Clark that the case suggested lupus erythematosus.

DR. MACKEE said that the case looked like one of lupus erythematosus, but that it might be lupus vulgaris. The ulcerating lesions were certainly epitheliomas. While epithelioma was seen in connection with lupus vulgaris far more frequently than with lupus erythematosus, he had seen the latter combination in two instances, and there were quite a number of such reports in the literature. Epithelioma when occurring in a lupus scar was usually of the malignant, squamous type. For this reason he favored some radical surgical measure, followed by roentgen-ray treatment, which should also be applied to the neighboring glands.

ROENTGEN-RAY ULCERATION. PRESENTED BY DR. MACKEE.

The patient was a man, 35 years of age. An epithelioma of the superficial serpiginous type developed on the nose about three years ago and was still present. Later, lesions developed on the chin and cheek over the left mandible; these were more deeply seated than those of the nose and they produced some ulceration and crusting. Roentgen-ray treatments were begun between two and three years ago, and the subsequent roentgen-ray erythema and ulceration were regarded as manifestations of the disease for which the patient was undergoing treatment, which was thought to be lupus vulgaris, so that roentgenization was continued.

The patient was first seen by the speaker in May, 1916, three weeks after an intensive roentgen-ray treatment. At that time there was an ulcer about 3 by 1½ inches along the mandible. It had a dry, glistening yellowish base, with slightly infiltrated margins, and was intensely painful. This ulcer had been present for nearly a year and had received several intensive roentgen-ray treatments. The pain began to diminish in November, 1916, and when presented before the Society the patient was fairly comfortable. In addition, the ulcer had closed in about one-quarter of an inch along the entire margin. At this rate of progress, it would require about two years for complete healing to take place, and the resulting scar might be potentially dangerous later in life. For these reasons, the speaker had advised a complete excision or a thorough curettage with subsequent skin grafting.

The speaker said that the case emphasized the fact that the roentgenologist, no matter how expert, was not qualified to treat dermatologic conditions on his own responsibility. In this particular instance, the patient had been sent by a dermatologist to the roentgenologist for roentgen-ray treatment. The roentgenologist failed to recognize the radiodermatitis when it developed. The roentgenologist, in this instance one of the most expert men in the country, should not be unjustly criticized, because the speaker had seen the same thing on three occasions in the private practice of dermatologists. He had seen cases of syphilis treated by the roentgen ray under the diagnosis of lupus. This and other similar errors would be less likely to occur in the hands of a well-trained dermatologist. On the other hand, in order to avoid untoward results, the dermatologist should be well-trained in roentgen-ray work or, if not, should send the patient to a roentgenologist for treatment and both men should continue to observe the case.

DISCUSSION

DR. CLARK said that he was much interested in this case, for he had first seen the patient two or three years ago, when he appeared with a lesion below the corner of the mouth, on the cheek, which was rather punched-out in character; he also then showed a healed lesion on the upper lip and a serpiginous lesion that was most suggestive of lues. Two or three Wassermanns were made at the time and the reports were indeterminate or one plus. The patient was put on antispecific treatment, and the results obtained were not what would have been expected from any straightforward specific lesion. After he had been through a course of antispecific treatment, the lesion on the cheek began to grow, and the story he told was quite interesting. He wrote several times that he would have an unpleasant sensation along the border of the lesion, or a short distance away—itching, discomfort, or even pain. He had a little outfit consisting of a fine scalpel and forceps, and the characteristic little mirror which he still carried, and with these he would sit down and pick out of his skin a quantity of these little nodules that resembled the granules of actinomycosis. The speaker said that he saw several of these, and had a section removed from the edge of one or two of the nodules, and the report came back that they were composed of granulation tissue. The man kept on removing these little nodules and so apparently extending the ulceration or edge, until finally the edge became distinctly raised and indurated, and it became suspicious of epithelioma. The speaker said he had asked a colleague to see the patient with him in consultation—the ulceration having extended to a half inch in length and an inch in width—and this colleague agreed with the diagnosis of epithelioma and suggested that the patient have massive roentgen-ray treatment. That was the last he had seen of the patient until he returned two or three weeks ago with the story that he had been to see Dr. Fox, and then to some one, a roentgen-ray man, and had had some exposures, and finally had gone to Dr. MacKee who told him that he had a roentgen-ray burn.

That was the story of the case, so far as he had been able to learn it. At present, he felt suspicious of the underlying condition. The patient had not had syphilis, and it seemed probable that he may have had a superficial Paget's

epithelioma, although the present condition seemed to be a roentgen-ray ulceration.

DR. GEORGE H. FOX said that he saw the patient about a year ago and made a positive diagnosis of epithelioma. At the present time the condition seemed to be a typical roentgen-ray ulceration.

DR. SHERWELL expressed the opinion that the lesion was an epithelioma, and advised the application of a curette and acid nitrate of mercury thoroughly to the edges, more lightly to the center. Anodynes to the required extent would obviate pain. Of course general anesthesia would be required at the time of operation.

DR. HOWARD FOX agreed with what had been said by Dr. George H. Fox. They had seen the patient together about a year ago and agreed then on the diagnosis of epithelioma. The patient was being given roentgen-ray treatments by some physician and was apparently receiving a large amount of the ray.

DR. CLARK said he thought some consideration was due to this man. He had had this ulceration for some time, and now he had to face one to two years for healing. If he were asked for advice, he would recommend a complete excision of the entire area, followed by skin grafting. The patient had certainly had enough of roentgen-ray treatment to dissipate that type of epithelioma.

PURPURA ANNULARIS TELANGIECTOIDES. PRESENTED BY DR. HEIMANN.

The patient, W. W., was a man, 55 years of age, who had had the existing trouble for about eight months. He had not known of his condition until his wife pointed it out to him. Dr. MacKee saw the case with the speaker when it first came under observation. At that time the eruption was restricted to a few fading lesions on the thighs. Within a few weeks past he thought he noticed further activity in these patches, which resembled the brown patches that followed purpura. The condition was clinically and microscopically purpura annularis telangiectodes. There were active lesions near the elbow. The case was presented to illustrate the period of involution and as a supplement to Dr. MacKee's case.

DISCUSSION

DR. MACKEE said that some cases of purpura annularis telangiectoides were very mild and somewhat difficult to diagnose. Ordinary purpura might produce annular lesions, but the three distinct stages would be lacking. Vascular changes following varicose eczema might also simulate Majocchi's purpura, but here, too, the three stages should not be distinct and the eruption would not occur in definite outbreaks. Purpura annularis telangiectodes was not a true purpura; the hemorrhage was secondary to definite vascular changes. It might be due to a rupture of a vessel or to the destruction of a vessel by degeneration. The disease began as puncta produced by dilated, congested, and thrombosed capillary loops in the papillæ. Hemorrhage constitute the second stage; pigmentation and atrophy, the terminal stage. For these reasons and to remove the disease from the purpuric group, Majocchi had suggested the descriptive title of telangiectasis follicularis annulata.

DR. GEORGE H. FOX said that the condition seemed to be a vascular trouble and the purpura was secondary. He thought the term telangiectasia would be better than purpura telangiectoides.

DR. MACKEE thought that the term suggested by Dr. George H. Fox was the better term. Several other members agreed with the diagnosis.

DR. HOWARD FOX said that microscopically the disease was essentially a pan-arteritis.

LINEAR NEVUS OF THE NECK. PRESENTED BY DR. WISE FOR DR. FORDYCE.

The patient was a boy, 15 years of age, who presented on the neck, just over the larynx, a linear, verrucous lesion composed of numerous closely aggregated raised warts, forming a narrow band disposed vertically. The band was about 2.5 inches in length and a half inch broad, tapering at both ends.

ALOPECIA CICATRISATA (?). PRESENTED BY DR. WISE FOR DR. FORDYCE.

The patient was a man, 41 years of age, with atrophic, crusted and scarred lesions on the back of the head, which were of a year's duration. The condition presumably was one of alopecia cicatrisata. No Wassermann test had yet been made.* The patient denied syphilis.

DISCUSSION

DR. MACKEE disagreed with the diagnosis. The lesion showed marked infiltration and deep ulceration and marked crusting in places. There were two or three fairly deep round, concave scars, having a diameter of at least one-eighth of an inch. He thought that the clinical signs indicated an ulcerating nodular syphilide.

DR. GEORGE H. FOX said that there was too much thickening of the skin for alopecia cicatrisata and that the condition was probably syphilitic.

DRS. CLARK AND WHITEHOUSE also thought the condition syphilitic.

EXTENSIVE TUBERCULOSIS CUTIS. PRESENTED BY DR. HOWARD FOX.

Previously presented before the Dermatological Section of the New York Academy of Medicine, Feb. 6, 1917.

DR. CLARK said that the scars of the skin were of the type that one would expect to see in syphilis; other appearances of the lesions and the grouping on the leg also spoke for syphilis, but on the other hand they were not asymmetrical. It was difficult to make the diagnosis between tuberculosis and syphilis.

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*Further observation proved the lesions to be syphilitic in character.

ERRATUM

In the September issue of THE JOURNAL, pages 567, 582, 590, 594 and 599, read before the "*Twenty-fourth*" Annual Meeting of the American Dermatological Association should have read: Read before the "*Forty-first*" Annual Meeting of the American Dermatological Association.

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